

EXHIBIT A

BOSTON REDEVELOPMENT AUTHORITY CONTRACTS

<u>DATE</u>	<u>DESCRIPTION</u>
2/15/80	Engineering services for Columbia Point Redevelopment Project .
1/15/81	Engineering services for Park Plaza Urban Project - Contract No.3 plus amendments.
6/16/81	Engineering services for Fenway Urban Renewal Project - Mass. R-115.
4/18/79	Engineering servies for Park Plaza Urban Project - Contract No.2.

UNIVERSAL ENGINEERING CORPORATION

CONSULTING ENGINEERS



100 BOYLSTON STREET · BOSTON · MASSACHUSETTS 02116

AREA CODE 617 542-9216

November 17, 1981

HAND DELIVERED

Boston Redevelopment Authority
One City Hall Square
Boston, Massachusetts

Re: Universal Engineering Corporation

Gentlemen:

The undersigned, Universal Engineering Corporation, a corporation duly organized under the laws of the Commonwealth of Massachusetts and having a usual place of business at 100 Boylston Street, Boston, Massachusetts (hereinafter referred to as the "Company"), has entered into an Acquisition Agreement dated November 17, 1981 (the "Agreement") with Philem, Inc., a corporation duly organized under the laws of the Commonwealth of Massachusetts and having a usual place of business at 100 Boylston Street, Boston, Massachusetts (hereinafter referred to as the "Purchaser").

Pursuant to the Agreement, at the closing (which is to be held November 25, 1981), the Purchaser will (i) acquire substantially all of the assets of the Company, (ii) accept an assignment of and assume all of the obligations under the Company's existing engineering consulting agreements (including, without limitation, those agreements between the Company and you which are listed on Exhibit A to this letter) (all such agreements being hereinafter referred to as the "Assigned Contracts"), (iii) employ all of the present employees of the Company, (iv) change its name to Universal Engineering Corporation, (the Company will change its name to a corporate name other than Universal Engineering Corporation) and (v) assume all of the Company's obligations under its lease of office space at 100 Boylston Street, Boston, Massachusetts. Under the Agreement, the Purchaser has agreed with the Company that it will perform all of the Company's obligations under each of the Assigned Contracts. Following the closing, the Purchaser will use its best efforts to cause each of its engineers to remain certified as required in order to comply with applicable Massachusetts

November 17, 1981

Page Two

law. Mr. David E. Nassif, the current President of the Company, will become the President of the Purchaser pursuant to an employment agreement to be entered into with the Purchaser on the closing date. In essence, therefore, it is the purpose of this transaction that at and after the closing date the Purchaser will continue the business of the Company as it is presently being conducted.

Each of the Assigned Contracts described on Exhibit A hereto provides that it may not be assigned without your written consent. Accordingly, you are hereby requested to consent to such assignments. Please indicate your consent to the above-described assignments by signing and dating the enclosed copy of this letter and returning it to the undersigned as soon as possible.

Should you have any questions whatsoever concerning this transaction, please feel free to contact either Mr. David E. Nassif, 100 Boylston Street, Boston, Massachusetts (tel: 617-542-8216) or counsel to the Company in connection with this transaction, Mr. F. Beirne Lovely, Jr., Goodwin, Procter & Hoar, 28 State Street, Boston, Massachusetts (tel: 617-523-5700).

Thank you in advance for your prompt attention to this request.

Very truly yours,

UNIVERSAL ENGINEERING CORPORATION

By:

David E. Nassif
David E. Nassif, President

cc: Philem, Inc.
Attn: President

Agreed: BOSTON REDEVELOPMENT AUTHORITY

By: _____

Date: _____

EXHIBIT A

BOSTON REDEVELOPMENT AUTHORITY CONTRACTS

<u>DATE</u>	<u>DESCRIPTION</u>
2/15/80	Engineering services for Columbia Point Redevelopment Project .
1/15/81	Engineering services for Park Plaza Urban Project - Contract No.3 plus amendments.
6/16/81	Engineering services for Fenway Urban Renewal Project - Mass. R-115.
4/18/79	Engineering servies for Park Plaza Urban Project - Contract No.2.

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29646

November 24, 1981

Universal Engineering Corporation
100 Boylston Street
Boston, Massachusetts 02116

Reference: General Information concerning the firm
of Davis & Floyd, Inc., Its Principals
and related matters.

Attention: Mr. David E. Nassif

INTRODUCTION

We are pleased to present certain information concerning Davis & Floyd, Inc., its principals and related matters. The firm was founded as a South Carolina corporation in June of 1954 by Emmett I Davis and Phil R. Floyd. It has operated on a continuous basis since that time providing professional and related services to both the private and public sector. The range and scope of services available through Davis & Floyd is clearly identified on Standard Form 254.

PROFESSIONAL QUALIFICATIONS AND STAFF

Davis & Floyd has a combined staff of over 130 engineers, architects, economists, planners, environmental and related fields specialists, the firm has the capacity of carrying out a wide variety of projects concurrently. It is prepared to develop preliminary designs, plans, specifications and contract documents; develop cost estimates and amortization schedules, and provide technical services during the construction phase. In addition to these separate and/or advance services, other services include the preparation and updating of economic analyses, technical feasibility studies, environmental reviews and assessments of proposed sites, master planning, surveys and site investigations. The staff includes civil, electrical, chemical, geotechnical, hydraulic, mechanical and structural engineers as well as value engineering specialists, architects, environmental planners and ecologists.

Davis & Floyd maintains in-house computers in addition to leased time share terminals which provide access to multiple structural and environmental programs. The firm's engineers and computer specialists have developed an extensive library of programs, mathematical models and related data as required for design of structures, utility systems and the solution of engineering and environmental problems.

TYPE WORK

Davis & Floyd, being a multi-disciplinary company, provides a variety of services but is primarily engaged for the furnishing of services in the area of water and wastewater facilities, industrial facilities, military facilities and laboratory services. An example of a recent municipal assignment is the Horse Creek Pollution Control Facility for the Aiken County Public Service Authority in Aiken County, South Carolina. The initial phase of this construction involved approximately 15 miles of 36" to 84" trunkline, a 20 MGD wastewater treatment facility and outfall line to the Savannah River. This is phase one of a three part 100 million dollar program. This initial phase represented a construction cost of approximately \$40 million. The project was selected by the American Public Works Association as the "outstanding civil engineering project in South Carolina for 1980", and subsequently was selected as one of the top ten nationally.

The firm was commissioned in 1978 to locate sites on the east coast for construction of small (30,000 B/D) "grass roots" refining facilities, and has obtained all permits for a site in Savannah, Georgia and is very close to the same for a site in Georgetown, South Carolina. As a matter of interest, the Savannah site represents the first new oil refining location licensed on the east coast in thirty years. Davis & Floyd has the overall design and construction management responsibility and as such will be responsible for the entire program. Each project is expected to cost in the range of 220/240 million dollars.

This firm has worked continually with the military services beginning in the later 50s with construction of SAC facilities throughout Florida, Alabama, and Mississippi to current work involving upgrading and modifying missile submarine support facilities. Assignments have included construction and/or modification of magazines, bulkheads, piers, assembly buildings, maintenance facilities, and utilities.

Davis & Floyd has maintained extensive in-house laboratory capabilities since the mid 1960s. Because of its heavy involvement with the private sector, it became necessary that the firm provide process and related technical services. This became more important with the advent of the various clean water, air and other programs which so vitally effect industry. Our laboratory personnel have worked throughout the United States, on a repeat basis, for many clients over the years.

PROFESSIONAL RECOGNITION

Davis & Floyd has been listed among the top 500 engineering firms by the Engineering News Record since the initiation of the listing in 1966. The annual fees involved have increased from around one half million dollars in the mid 60s to between \$5 and \$6 million today. It has been the policy of this firm to maintain a stable staff so as to provide a continuity of services to our many repeat clients. Growth of the firm has been conservative but systematic so as to maintain efficiency in the various disciplines required by our clients.

UNIVERSAL ENGINEERING CORPORATION

The principals of Davis & Floyd are now in process of negotiating with Mr. David E. Nassif for the acquisition of Universal Engineering Corporation of Boston, Massachusetts. It is the intention to continue operation of Universal under the same name and with the same staff. Mr. Nassif would continue to serve as President of the firm and Mr. Charles Y. Hitchcock as Chief Operating Officer. It is anticipated that the present staff of U.E.C. will be augmented so as to provide additional skills and/or disciplines to clients in the Boston area. Emmett I. Davis and Phil R. Floyd have made available to the newly organized firm the initial sum of \$300,000.00 to support the acquisition and to maintain present staff and management operations.

OUTLINE OF ACQUISITION AGREEMENT
BETWEEN
UNIVERSAL ENGINEERING CORPORATION
AND
PHILEM, INC.

Set forth below is a general outline of the Acquisition Agreement (the "Agreement") dated November 17, 1981 between Universal Engineering Corporation ("Seller") and Philem, Inc. ("Purchaser").

I. Parties.

- A. Seller: Universal Engineering Corporation - A Massachusetts corporation organized during the 1950's and having extensive engineering experience with various public and private entities.
- B. Purchaser: Philem, Inc. - A Massachusetts corporation which has been recently formed for the purposes of acquiring the engineering business of Seller and continuing it in substantially the same manner as it has been conducted by Seller to date.

II. Purchase and Sale of Assets.

- A. At the Closing, Seller will sell, assign and transfer and Purchaser will purchase and accept the assignment and transfer of the following properties and assets (the "Subject Assets"). 1. All of Seller's right, title and interest in and to all existing engineering contracts to which it is a party.

PRINCIPALS

Mr. Phil R. Floyd

Mr. Floyd was born in Travelers Rest, South Carolina and attended Clemson University. He graduated in 1949 with a Bachelor of Science degree in Civil Engineering. Prior to the organization of Davis & Floyd, Inc., Mr. Floyd was employed by the Texas Highway Department as a location and design engineer. This work was located in south Texas and involved a variety of field and office experience. Following the organization of Davis & Floyd, he has served continually as a stockholder and officer in the firm and is now principal in charge of the Charleston, South Carolina office. In this capacity, he has responsibility for development of a major utilities program in the North Charleston area beginning in 1960 and continuing through 1985. He is also in charge of coordination, through that office, and various work for the Corps of Engineers, U.S. Air Force, and U.S. Navy. Under his direction the Charleston office has been responsible for the successful completion of major projects involving development of barrier islands, the new Charleston International Airport, railroad, road and bridge projects and continuing construction management.

Mr. Floyd is a licensed Professional Engineer in the states of South Carolina, Georgia and North Carolina. He is also active in local, state and national professional organizations. Mr. Floyd is a member of the Charleston Rotary Club, various local and state civic improvement groups and other civic activities.

Mr. Emmett I. Davis

Mr. Davis was born in Greenwood, South Carolina and graduated from The Citadel in 1950 with a Bachelor of Science in Civil Engineering. His first professional assignment included work with a large textile firm which was conducting a major expansion program. In 1954, he participated in the organization of Davis & Floyd, Inc. and has served continually from that time as a stockholder and officer in the firm. Mr. Davis is the principal in charge of the offices in Greenwood, South Carolina and Bristol, Tennessee. In that capacity he has overall responsibility for design, scheduling and coordination responsibility. Recent programs under his immediate supervision have included design of petro chemical facilities, industrial buildings, storm drainage studies, airport facilities, recreational developments, parks, water front facilities, economic and planning studies, assignments for the Corps of Engineers, U.S. Naval Facilities Engineering Command, and U.S. Air Force.

He is active in state, regional and national professional societies and has served as director of the state ASCE Chapter for many years. In 1980, Mr. Davis was inducted in the Gamma Chapter of Tau Beta Pi as an "Eminent Engineer." Mr. Davis is a registered Professional Engineer in the states of South Carolina, Georgia, Mississippi, Alabama, Kentucky and Tennessee. He is the immediate past chairman of the Board of Trustees for Erskine College having served in that capacity for eight years. He serves as a director of the South Carolina Foundation of Independent Colleges, local bank board and other boards and commissions in this area.

2. All of Seller's right, title and interest in and to the corporate name "Universal Engineering Corporation" and all goodwill associated therewith.
3. All of Seller's right, title and interest in and to its lease of real property at 100 Boylston Street, Boston, Massachusetts 02116.
4. All of Seller's right, title and interest in, to and under an Employment Agreement with Charles Hitchcock, a principal employee of Seller.
5. All of Seller's right, title and interest in and to any outstanding proposed contracts existing as of the Closing Date.
6. All of the personal properties and fixtures presently being utilized by Seller at its present location.

III. Assumption of Liabilities.

- A. At the Closing, Purchaser shall assume all of Seller's liabilities and obligations with respect to the Subject Assets.
- B. Seller and Purchaser will execute such Assignment and Assumption documents as may be appropriate.

IV. Insurance. All appropriate errors and omissions and other insurance policies will be maintained in effect so as to fully protect both the Seller and the Purchaser following the Closing.

V. Employment Agreement with David E. Nassif. Purchaser will enter into a three year Employment Agreement with David E. Nassif pursuant to which Mr. Nassif shall serve as President

of Purchaser or in some equivalent executive position.

- VI. Employees. It is the intention of Purchaser and Seller that all of Seller's present employees continue to be employed in similar capacities with Purchaser from and after the Closing Date.
- VII. Representations. Both Seller and Purchaser shall make all standard representations and warranties to the other relative to its existing obligations, insurance coverage, good standing, etc.
- VIII. Access. Seller shall give Purchaser full access to its records relating to the operation of Seller's business to date, including its relationships with all parties with whom Seller has existing contractual relations.
- IX. Closing Conditions. It shall be a condition to the Closing that an effective assignment of all existing contracts of Seller shall have been delivered to Purchaser.
- X. Obligations of Purchaser Following the Closing. Following the Closing Date, Purchaser has agreed to (i) maintain its corporate existence, (ii) provide periodic financial statements to Seller, (iii) refrain from assigning, sub-contracting or otherwise encumbering any of the assigned contracts without consent of the Seller, which consent is not to be unreasonably withheld, (v) fully perform or cause to be performed all of Seller's obligations under the assigned contracts, (vi) conduct its business according to usual practices of similar engineering businesses, (vii) change

its name to Universal Engineering Corporation on the Closing Date, and (viii) maintain a net worth, determined in accordance with generally accepted accounting principles, in an amount equal to at least \$300,000 so long as there are outstanding obligations to Seller under the Agreement.

XI. Indemnifications. Seller and Purchaser have agreed to indemnify the other with respect to any representations or liabilities arising with respect to assigned contracts for which the indemnifying party is responsible.

XII. Miscellaneous. Attached hereto is a proposed draft of the Architects and Engineers Review Board Questionnaire which sets forth the anticipated organization of Purchaser from and after the Closing Date (and related information).

The
Leading 500
Design
Firms
1980

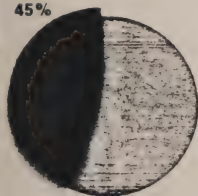
Top design firms boost

But inflation here and abroad shrinks growth

Designers divide \$5.9 billion pot

Engineer-architects
(% of total billings)

45%



Consulting Engineers*

33%



*Includes soils engineers
with \$85.7 million in design

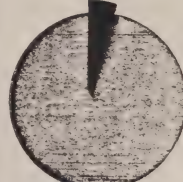
Architect-engineers

17%



Architects

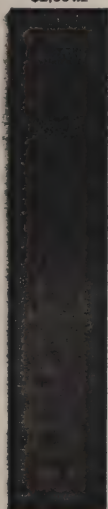
5%



\$ millions

\$2,661.2

foreign



Engineer-architects

\$1,969.8

foreign



Consulting Engineers*

\$973.9

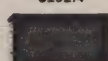
foreign



Architect-engineers

\$292.4

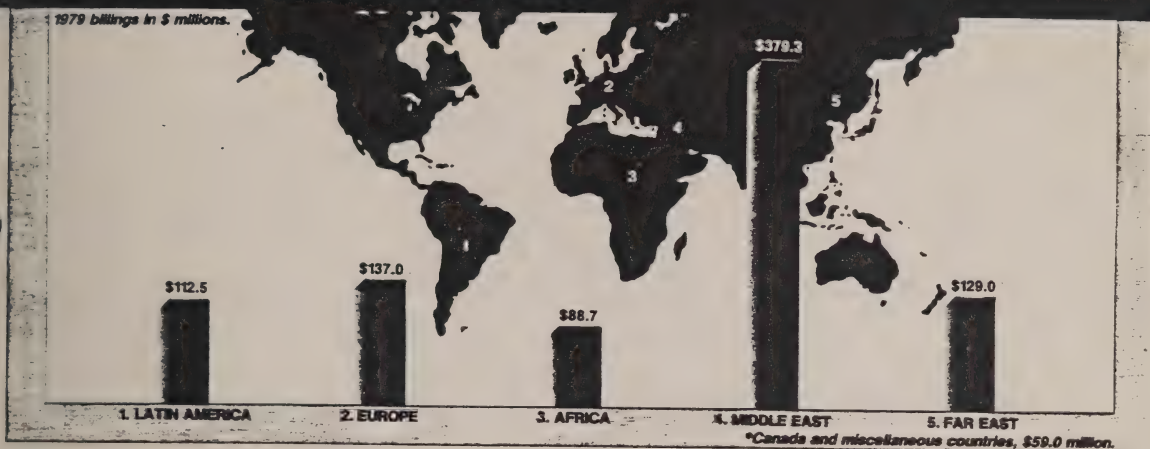
foreign



Architects

billings 18% in '79

... with 15% from foreign work



The nation's top design firms continued to boost design billings in 1979, but inflation and fading foreign fortunes show signs of eroding real growth. Total billings jumped 18% to \$5.9 billion, the fourth consecutive annual rise and the largest dollar increase in the 16-year history of ENR's Top 500 survey.

Multidiscipline firms offering both engineering and architectural services again billed the lion's share of the total. These diversified firms hiked billings in 1979 by 22% and grabbed a 62% share of total billings (see chart).

Consulting engineers didn't fare as well. They boosted their billings by only 10% as a once-rich Middle-East market shriveled for several firms. Architects recovered from a slow 1978 by adding 13 firms to the top 450 design-only list while taking 5% of total billings.

ENR's top 50 design-constructors (see p. 88) also boosted their volume of work, with a 12% jump in the value of new work following a 36% increase in 1978. However, unlike their design-only counterparts, these firms relied far more heavily

on foreign projects. Almost 40% of their design-build and design work came from work abroad. In contrast, billings for their domestic work increased only 7%, less than a third of 1978's rise.

Middle East slips. Although foreign billings for the top 450 design firms climbed 11% in 1979, the dollar increase was almost \$13 million less than in 1978, reflecting, in part, losses in Iran that left Middle-East billings, at \$379 million, 5% below 1978's volume. The number of design firms working in Iran dropped from 40 in 1978 to 18 in 1979.

"Our offices around the world," says George Lean, an officer of Los Angeles-based Dames & Moore, Inc., "worked pretty well for us until everything we were doing in Iran folded last year. We went from a pretty big operation to zero overnight."

W.M. Hall, chairman of Chas. T. Main, Inc., Boston, ranked seventh among top design firms, similarly saw once-solid Iranian markets evaporate. Among the firm's setbacks in Iran, claims Hall, were the cancellation of two trans-

mission line distribution projects and a powerplant.

Helping to counter this foreign billings slide, Hall adds, were utility projects in Latin America, particularly in Uruguay and Argentina. However, total design billings in Latin America fell 1% to \$112 million. The number of design firms working in Latin American countries fell from 108 to 73.

Billing gains for design firms in other regions of the world helped counter the Middle East slide. Projects in Europe gave the top 450 firms \$137 million in fees, about 15% of the foreign total. And although the number of firms working in the Far East and Africa fell slightly from 1978's level, design billings increased in both areas, rising 14% and 23%, respectively (see chart above).

Risks and rewards. Despite increased competition for foreign work, the lure of major design work in foreign countries remains strong. "Where the rewards are greatest, the risks are greatest," says Jerome M. Fischer, executive vice-president of Planning Research Corp. (PRC),

Washington, D.C., ranked second among leading design firms for the third consecutive year.

The risks, however, he claims, should not prevent PRC from receiving about 30% of its billings from work abroad this year, just as it did last year. "Our losses in the Middle East were more than offset by gains in the Far East," he says.

Participation in widely scattered markets and willingness to take risks helped PRC and the other largest design firms increase foreign billings substantially in 1979. This year's ranking of the 10 largest firms, essentially unchanged from last year's list, shows that the top 10 posted a 20% gain in foreign billings, nearly double the 11% increase registered by the remaining 440 top design firms.

The top 10 also relied on foreign markets for a greater share of total billings. Over 21% of total billings for these firms came from work overseas, while only 14% of billings for the remainder came from abroad.

Whether these gains by the largest firms hold up in subsequent years is another question for PRC and other major designers in the foreign market. "So much depends on the international financing banks," says Fischer, a sentiment shared by other design firm officers.

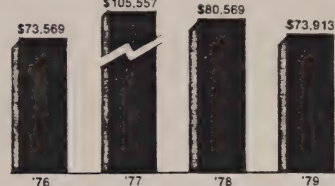
Louis Berger, president of Louis Berger Group of Companies, E. Orange, N.J. looks for a leveling-off in design activity in international markets except OPEC

Design billings per staff decline for most firms*

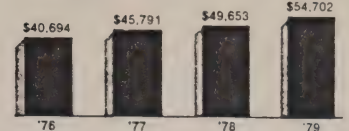
Diversified firm billings ratio
begins to level off



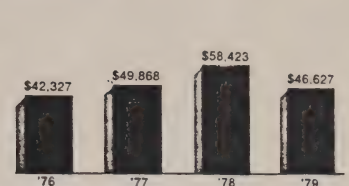
Architects saw billings per staff
continue to fall last year



Consulting engineers buck the tide,
posting a 10% climb



Soils engineers' ratio drops
a hefty 20%.



*Based on returns by 443 design firms—includes only professional and subprofessional staff

countries. Berger, whose firm derived almost 90% of its 1979 billings from foreign projects, claims that many non-OPEC developing nations will find it difficult to come up with local-currency funds to match contributions from international lending agencies. This and rapid inflation, he adds, will constrain many consultants from entering new contracts unless clients provide for inflation and interest reimbursements on invoices unpaid after 45 days. "The effect of slow payments on cash flow and the high cost of capital," says Berger, "could bring a sharp reduc-

tion in the volume of work and profits for many consultants in the year."

Spokesmen for top designers agree that rising costs are cutting deep into any billings gains.

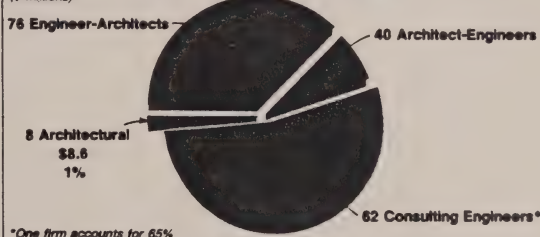
A major powerplant design firm, Gilbert/Commonwealth Cos., Reading, Pa., fourth among top designers (see listing p. 64), also finds inflation hampering real growth. "Our company's billings in 1979 were slightly higher than in 1978," says chairman James R. Stoudt, "but we've hardly kept up if one takes inflation into account." □

These designers and builders led the industry's CM market (Designers in color)

1979 CM billings
(in \$ millions)

1. The Parsons Corp., Pasadena, Calif. \$266.2
2. The Resource Sciences Corp., Tulsa, Okla. 215.5
3. Ebasco Services, Inc., New York, N.Y. 83.0
4. Ford, Bacon & Davis, Inc., New York, N.Y. 54.0
5. Dravo Corp., Pittsburgh, Pa. 43.2
6. Planning Research Corp., Washington, D.C. 40.0
7. Turner Construction Co., New York, N.Y. 36.1
8. United Engineers and Constructors, Inc., Philadelphia, Pa. 36.0
9. Corrao Construction Co., Inc., Reno, Nev. 33.0
10. Morrison-Knudsen Co., Inc., Boise, Idaho 31.3
11. Gilbane Building Co., Providence, R.I. 29.3
12. Chas. T. Main, Boston, Mass. 25.0
13. The Austin Co., Cleveland, Ohio 22.6
14. King-Wilkinson, Inc., Houston, Tex. 21.6
15. Bechtel Group of Companies, San Francisco 19.2
16. The Rust Engineering Co., Birmingham, Ala. 18.2
17. McCarthy Brothers Const. Co., Brentwood, Mo. 18.0
18. Raymond International, Inc., Houston, Tex. 17.0
19. The CRS Group, Inc., Houston, Tex. 16.3
20. Bank Building Corp., St. Louis, Mo. 15.4
21. Crawford & Russell, Inc., Stamford, Conn. 15.0
22. Gilbert/Commonwealth, Reading, Pa. 15.0
23. Barton-Malow Co., Detroit, Mich. 12.8
24. Day & Zimmerman, Inc., Philadelphia, Pa. 10.5
25. Santa Fe International Corp., Orange, Calif. 9.7
26. Melton-Stewart, Pittsburgh, Pa. 9.7
27. 3D/International, Houston, Tex. 9.7
28. Harza Engineering Co., Chicago, Ill. 9.5
29. J.A. Jones Construction Co., Charlotte, N.C. 9.4
30. Tishman Realty & Construction Co., N.Y., N.Y. 9.2
31. Black & Veatch, Kansas City, Mo. 8.8
32. W.E. O'Neil Construction Co., Chicago, Ill. 8.3
33. George A. Fuller Co., New York, N.Y. 7.5

EA's took a larger piece of the designer CM pie (\$ millions)



34. Sverdrup Corp., St. Louis, Mo. 7.4
35. CH2M Hill, Inc., Corvallis, Ore. 7.2
36. The Hillier Group, Princeton, N.J. 7.2
37. Fru-Con Corp., St. Louis, Mo. 7.0
38. J.G. Mackin & Assoc., Houston, Tex. 7.0
39. Huber, Hunt & Nichols, Inc., Indianapolis, Ind. 6.8
40. Arkel, Ltd., Baton Rouge, La. 6.7
41. Catalytic Inc., Philadelphia, Pa. 6.5
42. Tudor Engineering Co., San Francisco, Calif. 6.3
43. Walk Haydel & Assoc., Inc., New Orleans, La. 6.1
44. Wayne H. Coloney Co., Inc., Tallahassee, Fla. 5.9
45. C.F. Braun & Co., Alhambra, Calif. 5.6
46. Butler Associates, Tulsa, Okla. 5.5
47. Cunningham-Limp Co., Birmingham, Mich. 5.3
48. Stanley Consultants, Inc., Muscatine, Iowa 5.3
49. Louis Berger Group of Cos., E. Orange, N.J. 5.2
50. Gannett Fleming Corddry & Carpenter, Inc., Harrisburg, Pa. 5.1

Leading 450 design firms and 50 design-constructors in 1979

Billings totaled \$100 million or more

1	The Resource Sciences Corp., Tulsa, Okla. (a).....
2	Planning Research Corp., Washington, D.C. (b).....
3	Sargent & Lundy, Chicago, Ill.
4	Gilbert/Commonwealth Cos., Reading, Pa.
5	Gibbs & Hill, Inc., New York, N.Y.
6	Black & Veatch, Kansas City, Mo.
7	Chas. T. Main, Inc., Boston, Mass. (c).....

TYPE OF FIRM *	ARCHITECTURAL	MECHANICAL	ENVIRONMENTAL	CIVIL ENG.	ELECTRICAL	CITY PLANS	CM	STRUCTURAL	TRANS.	PLNG.	JOBS ABROAD	ENR SUB- SCRIBERS
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		57
EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		126
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		148
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		142
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		72
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		126
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		59

Billings totaled \$50 million to \$99.99 million

8	CH2M Hill, Inc., Corvallis, Ore.
9	Dames & Moore, Los Angeles, Calif. **
10	Sverdrup Corp., St. Louis, Mo.
11	Louis Berger Group of Cos., East Orange, N.J. (d.)
12	J.E. Sirrine Co., Greenville, S.C.
13	The CRS Group, Inc., Houston, Tex.
14	Camp Dresser & McKee, Inc., Boston, Mass. (e)....
15	Howard Needles Tammen & Bergendoff, Kansas City, Mo.
16	Daniel, Mann, Johnson & Mendenhall, Los An- geles, Calif.
17	A. Epstein and Sons, Inc., Chicago, Ill.
18	Harza Engineering Co., Chicago, Ill.
19	Woodward-Clyde Consultants, San Francisco, Ca.
20	De Leuw, Cather & Co., Washington, D.C.

CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓		70
CE	..	..	✓	✓	✓	✓	✓	✓	✓	✓		66
EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		100
EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		18
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		37
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		7
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		130
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		93
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		51
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		7
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		130
CE	..	..	✓	✓	✓	✓	✓	✓	✓	✓		60
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		144

Billings totaled \$35 million to \$49.99 million

21	Burns & McDonnell, Kansas City, Mo.
22	Skidmore, Owings & Merrill, Chicago, Ill.
23	International Engineering Co., San Francisco, Ca.
24	Lockwood Greene, Spartanburg, S.C.
25	Parsons Brinckerhoff Quade & Douglas, Inc., New York, N.Y. (f)
26	Henningson, Durham & Richardson, Inc., Omaha, Neb.
27	NUS Corp., Rockville, Md.
28	URS Corp., San Mateo Calif.
29	Systems Planning Corp., Los Angeles, Calif. (g)....
30	Metcalf & Eddy, Inc., Boston, Mass. (h).....
31	Lester B. Knight & Associates, Inc., Chicago, Ill. ...
32	King-Wilkinson, Inc., Houston, Tex.

EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		145
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		38
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		33
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		42
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		63
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		16
CE	..	✓	..	✓	✓	✓	✓	✓	✓	✓		2

Billings totaled \$20 million to \$34.99 million

33	3D/International, Houston, Tex.
34	The Smith Group, Detroit, Mich. (i).....
35	McClelland Engineers, Inc., Houston, Tex.
36	Giffels Associates, Inc., Southfield, Mich.
37	Law Engineering Testing Co., Atlanta, Ga.
38	Worley Engineering, Inc., Houston, Tex.
39	Hellmuth, Obata & Kassabaum, Inc., St. Louis, Mo.
40	Reynolds, Smith & Hills A-E-P, Inc., Jacksonville, Fla.
41	Quadrex Corporation, Campbell, Calif.
42	TCB, Inc., Houston, Tex. (j).....
43	VTN Corp., Irvine, Calif.
44	Stanley Consultants, Inc., Muscatine, Iowa
45	Gannett Fleming Corddry and Carpenter, Inc., Harrisburg, Pa.
46	CE Maguire, Inc., Waltham, Mass. (k).....
47	Tippelits-Abbott-McCarthy-Stratton, N.Y., N.Y.

AEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		21
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		0
CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓		23
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		26
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		44
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		60
AEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		37
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		84

* Billings estimated by ENR * KEY TO TYPE OF FIRM: A = Architect; AE = Architect-Engineer; CE = Consulting Engineer; EA = Engineer-Architect;
SE = Soils or geotechnical engineer; P = Planner. Firms classified themselves. ** Fiscal year ending 3/30/80

48	A.M. Kinney Inc., and Affiliates, Cincinnati, Ohio*
49	Engineering-Science Companies, Arcadia, Calif. (I)
50	James M. Montgomery, Consulting Engineers, Inc., Pasadena, Calif.
51	R.W. Beck and Associates, Seattle, Wash.
52	Tetra Tech, Inc., Pasadena, Calif.
53	Fugro, Inc., Long Beach, Calif.
54	Michael Baker Inc., Beaver, Pa.
55	Welton Beckett Associates, Santa Monica, Calif.
56	Post, Buckley, Schuh & Jernigan, Inc., Miami, Fla.
57	Lockwood, Andrews & Newnam, Inc., Houston, Tex.
58	Betz-Converse-Murdoch, Inc., Plymouth Meeting, Pa. (m)
59	ORBA Corporation, Fairfield, N.J.
60	Lyon Associates, Inc., Baltimore, Md.
61	Ellerbe Associates, Inc., Bloomington, Minn.
62	Leo A. Daly, Omaha, Neb.
63	D'Appolonia Consulting Engineers, Inc., Pittsburgh, Pa.
64	Earl and Wright, San Francisco, Calif.
65	Larkin, Glassman & Prager Assoc. Inc., Boston, Mass.

Billings totaled \$15 million to \$19.99 million

66	Brown and Caldwell, Walnut Creek, Calif.
67	Perkins & Will, Chicago, Ill.
68	Benham-Blair & Associates, Oklahoma City, Okla.
69	Ammann & Whitney, New York, N.Y.*
70	Boyle Engineering Corp., Irvine, Calif.
71	Dalton-Dalton-Newport, Cleveland, Ohio
72	Bernard Johnson Inc., Houston, Tex.
73	Gensler and Associates, San Francisco, Calif.
74	Wilbur Smith & Associates, New Haven, Conn.
75	Roy F. Weston, Inc., West Chester, Pa.
76	Bovay Engineers, Inc., Houston, Tex.
77	International Consultants on Urbanization, Tucson, Ariz. (n)
78	STV Engineers, Inc., Pottstown, Pa.
79	Malcolm Pirnie, Inc., White Plains, N.Y.
80	Walk, Haydel & Associates, Inc., New Orleans, La.
81	NPS Corp., Secaucus, N.J.
82	Wayne H. Coloney Co., Inc., Tallahassee, Fla.
83	Greeley and Hansen, Chicago, Ill.
84	Dewberry, Nealon & Davis, Fairfax, Va.
85	Kidde Consultants, Inc., Baltimore, Md. (o)
86	Wilson & Company, Engineers & Architects, Salina, Kan.
87	Donohue & Associates, Inc., Sheboygan, Wis.
88	Greiner Engineering Sciences, Inc., Tampa, Fla.
89	Anderson-Nichols & Co., Inc., Boston, Mass.
90	J.J. Henry Co., Inc., Moorestown, N.J.

Billings totaled \$10 million to \$14.99 million

91	Syska & Hennessey Inc., New York, N.Y.
92	Petro-Marine Engineering, Inc., Gretna, La.
93	Edwards and Kelcey, Inc., Livingston, N.J.
94	Tudor Engineering Co., San Francisco, Calif.
95	Soil Testing Services, Northbrook, Ill.
96	The Architects Collaborative Inc., Cambridge, Mass.
97	The Firm of Dermot Reddy, New York, N.Y.
98	Professional Service Industries, Inc., Oak Brook, Ill.
99	Samborn, Steketee, Otis & Evans, Inc., Toledo, Ohio
100	Acres American Inc., Buffalo, N.Y.
✓	Pedco Group, Cincinnati, Ohio

TYPE OF FIRM #	ARCHITECTURAL	MECHANICAL	ENVIRONMENTAL	CIVIL ENG.	ELECTRICAL	CITY PLANS	CM	STRUCTURAL	TRANS.	PLNG.	JOBS ABROAD	ENR SUB-SCRIBERS
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	19
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	19
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	30
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	55
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
CEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	19
EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17
EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	24
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	20
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	16
AEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	29
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	22
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	28
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	23
A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	16
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	16
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	29
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	44
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	34
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	26
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	22
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	23
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	16
SE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17
A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
SE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5

✓ Awards would rank firm No. 51

		TYPE OF FIRM #	ARCHITECTURAL	MECHANICAL	ENVIRONMENTAL	CIVIL ENG.	ELECTRICAL	CITY PLANS	CM	STRUCTURAL	TRANS. PLNG.	JOBS ABROAD	ENR SUB- SCRIBERS
101	Vitro Engineering Corp., Richland, Wash.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
102	Sippican Consultants International, Cambridge, Mass.(p).....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	24
103	Pope, Evans and Robbins Inc., New York, N.Y.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
104	Swan Wooster Engineering Inc., Portland, Ore.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
105	O'Brien & Gere Engineers, Inc., Syracuse, N.Y.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	12
106	Albert C. Martin & Associates, Los Angeles, Calif.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
107	Trans-Asia Engineering Assoc. Inc., Washington, D.C.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
108	Williams & Works, Grand Rapids, Mich.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
109	Maxwell Starkman & Associates, Beverly Hills, Calif.....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
110	L. Robert Kimball & Assoc., Ebensburg, Pa.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
111	Dana-Larson-Roubal Associates, Inc., Omaha, Neb.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
112	Harwood K. Smith & Partners, Inc., Dallas, Tex.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
113	Finley Engineering Co., Lamar, Mo.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
114	HLW (Haines Lundberg Washler), New York, N.Y..	AEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
115	Naramore Bain Brady & Johanson, Seattle, Wash.(q).....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
116	Heery International, Inc., Atlanta, Ga.(r).....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15
117	Simons-Eastern Co., Atlanta, Ga.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
118	Butler Associates, Inc., Tulsa, Okla.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
119	Envirodyne Engineers, Chicago, Ill.(s).....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	34
120	Sandwell International Inc., Portland, Ore.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
121	Whitman, Requaardt & Assoc., Baltimore, Md.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
122	Greenhorne & O'Mara, Inc., Riverdale, Md.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
123	Morris/Aubry Architects, Houston, Tex.....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
124	Hope Consulting Group, San Diego, Calif.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
125	Owen Ayres & Associates, Eau Claire, Wis.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
126	Fay, Spofford & Thorndike, Inc., Boston, Mass.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
127	Charles Kober Associates, Los Angeles, Calif.....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
128	SMC Engineering, Millburn, N.J.(t).....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
129	Gee & Jensen E-A-P, Inc., West Palm Beach, Fla..	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
130	Espey, Huston & Associates, Inc., Austin, Tex.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
131	William L. Pereira Associates, Los Angeles, Calif..	AEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4

Billings totaled \$7.0 million to \$9.99 million

132	Gillum-Kacyra-Colaco International, St. Louis, Mo.(u).....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17
133	Elson T. Killam Associates, Inc. Millburn, N.J.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15
134	The Kling Partnership, Philadelphia, Pa.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	12
135	Russell & Axon, E-P-A, Inc., Daytona Beach, Fla...	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
136	Stubbs Overbeck & Associates Inc., Houston, Tex.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
137	Burgess and Niple, Columbus, Ohio.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11
138	I.M. Pei and Partners, New York, N.Y.....	AP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
139	Brown Daltas and Associates, Cambridge, Mass..	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
140	Eagleton Engineering Co., Houston, Tex.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
141	ATEC Associates, Indianapolis, Ind.....	SE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
142	Harding-Lawson Associates, San Rafael, Calif.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
143	O. Germany, Inc., Troy, Mich.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
144	John Graham Co., Seattle, Wash.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
145	Albert Kahn Associates Inc., Detroit, Mich.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
146	Gresham and Smith, Nashville, Tenn.....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
147	Norman Engineering Co., Los Angeles, Calif.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
148	PQA Inc., Charlotte, N.C.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
149	J.G. Macklin & Associates, Houston, Tex.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
150	S & B Engineers, Inc., Houston, Tex.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4

TYPE OF FIRM #
 ARCHITECTURAL
 MECHANICAL
 ENVIRONMENTAL
 CIVIL ENG.
 ELECTRICAL
 CITY PLANS
 CM
 STRUCTURAL
 TRANS. PLNG.
 JOBS ABROAD
 ENR SUB-
 SCRIBERS

... Billings totaled \$7.0 million to \$9.99 million

151	MacKay & Samps, San Jose, Calif.	CE	..	..	..	✓	..	✓	..	..	..	..	..	..	..	..	..	6
152	Everett I. Brown Co., Indianapolis, Ind.	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
153	Stone, Marracchini & Patterson, San Francisco, Calif.	A	✓	✓	..	..	..	..	..	✓	..	..	..	✓	..	✓	..	2
154	C.F. Murphy Associates, Chicago, Ill.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
155	Schmidt, Garden & Erikson, Chicago, Ill.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
156	RTKL Associates Inc., Baltimore, Md.	AEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
157	Converse Ward Davis Dixon, Pasadena, Calif.	SE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
158	Hubbell, Roth & Clark, Inc., Bloomfield Hills, Mich.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17
159	Edward C. Jordan Co., Inc., Portland, Me.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
160	The Cannon Partnership, Grand Island, N.Y.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
161	HTB, Inc., Oklahoma City, Okla.	AEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
162	Whitman & Howard, Inc., Wellesley, Mass.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
163	BASCO Associates & Buchart-Horn, York, Pa.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	24
164	Soros Associates, New York, N.Y.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
165	R.S. Fling & Partners, Inc., Columbus, Ohio	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
166	Hayes, Seay, Mattern & Mattern, Roanoke, Va.(v) .	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17
167	McNamee Porter & Seeley, Ann Arbor, Mich.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	20
168	McGaughy Marshall & McMillan, Norfolk, Va.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
169	Mason & Hanger - Silas Mason Co., Inc., Lexington, Ky.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	21
170	John Carl Warnecke & Associates, San Francisco, Calif.	A	✓	✓	..	..	..	..	..	..	..	..	..	✓	✓	✓	✓	3
171	Southern Engineering Co. of Georgia, Atlanta, Ga.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
172	Sasaki Associates Inc., Watertown, Mass.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
173	Sanderson & Porter, Inc., New York, N.Y.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
174	Hazen & Sawyer, New York, N.Y.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	25
175	Barton-Aschman Associates, Inc., Evanston, Ill.(w) .	EP	..	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
176	Fellows, Read & Weber, Inc., Toms River, N.J.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
177	Wade-Trim Environmental Group, Inc. Taylor, Mich.(x) .	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
178	C.H. Guernsey & Co., Oklahoma City, Okla.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
179	The Chester Engineers Inc., Coraopolis, Pa.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
180	Energy Inc., Idaho Falls, Ida.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
181	Kramer Chin & Mayo, Seattle, Wash.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
182	Barge-Waggoner-Sumner & Cannon, Inc., Nashville, Tenn.	EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
183	Shannon & Wilson, Inc., Seattle, Wash.	SE	..	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
184	Peter F. Loftus Corp., Pittsburgh, Pa.(y) .	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
185	Salvucci Engineers, Inc., Pittsburgh, Pa.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
186	Pacific Architects and Engineers Inc., Los Angeles, Calif.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
187	Gruen Associates, Los Angeles, Calif.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
188	Matrix, Inc., Pittsburgh, Pa.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
189	Dannenbaum Engineering Corp., Houston, Tex.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
190	Kennedy/Jenks Engineers, San Francisco, Calif. ..	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
191	Harland Bartholomew & Assoc., Inc., Memphis, Tenn.	EP	..	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11
192	Carter & Burgess, Inc., Fort Worth, Tex.	EP	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
193	The Hillier Group, Princeton, N.J.	A	✓	✓	..	..	..	..	..	✓	..	..	..	✓	✓	✓	✓	2
194	Wiley & Wilson, Inc., Lynchburg, Va.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
195	Jones & Henry Engineers Ltd., Toledo, Ohio	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	12
196	John Carollo Engineers, Walnut Creek, Calif.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
197	Ewing Cole Cherry Parsky, Philadelphia, Pa.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
198	Hensley-Schmidt, Inc., Chattanooga, Tenn.	CE	..	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17
199	Moore, Gardner & Associates, Asheboro, N.C.	CE	..	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
200	Fiad & Associates, Inc., Madison, Wis.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2

201 Lockwood, Kessler & Bartlett, Inc., Syosset, N.Y. ...
Billings totaled \$5 million to \$6.99 million

202	Charles J. Kupper, Inc., Piscataway, N.J.
203	Toltz, King, Duvall, Anderson & Assoc., St. Paul, Minn.
204	Ellis/Naeyaert/Genhelmer Associates, Inc., Troy, Mich.
205	Hoad Engineers Inc., Ypsilanti, Mich.
206	Soil & Materials Engineers, Inc., Raleigh, N.C.
207	Richard L. Bowen & Associates, Cleveland, Ohio
208	Ferendino/Grafton/Spillis/Candela, Coral Gables, Fla.
209	Woolpert Consultants, Dayton, Ohio
210	Charles A. Manganaro, Consulting Engineers, New York, N.Y.
211	Hoskins-Western-Sonderregger, Inc., Lincoln, Neb.
212	Stottler Stagg & Associates, Cocoa Beach, Fla.
213	Booker Associates, Inc., St. Louis, Mo.
214	Peter A. Lendrum Associates, Phoenix, Ariz.
215	Joseph A. Loring Assoc., Inc., New York, N.Y.
216	Rogers, Burgun, Shaline & Deschler, New York, N.Y.
217	Alden E. Stillson & Associates, Columbus, Ohio
218	Kirkham, Michael & Associates, Omaha, Neb.
219	Hansen Lind Meyer, P.C., Iowa City, Iowa
220	Harley Ellington Pierce Yee Associates, Southfield, Mich.
221	Rummel, Klepper & Kahl, Baltimore, Md.
222	SEA Engineers/Planners, Sparks, Nev.
223	Lawler, Matusky & Skelly Engineers, Pearl River, N.Y.
224	SACMAG Arch.-Eng., Santurce, P.R.
225	Holabird & Root, Chicago, Ill.
226	Shive-Hattery & Associates, Cedar Rapids, Iowa
227	The Spink Corporation, Sacramento, Calif.
228	TRA, Seattle Wash.
229	HWH/Hoag-Wisner Partnership, Cleveland, Ohio(z)
230	Bather, Ringrose, Wolfeld, Jarvis, Gardner Inc., Minneapolis
231	Engineering Design Group, Inc., Tulsa, Okla.
232	Ellers; Fanning, Oakley, Chester & Rike, Inc., Memphis, Tenn.
233	Robert Bein, William Frost & Associates, Newport Beach, Calif.
234	Green International, Inc., Sewickley, Pa.
235	John A. Martin & Associates, Los Angeles, Calif.
236	VVKR, Inc., Alexandria, Va.
237	Western Technologies, Inc., Phoenix, Ariz.
238	Clyde E. Williams & Assoc., Inc., South Bend, Ind.
239	Havens & Emerson, Inc., Cleveland, Ohio
240	Rosetti Assocs., Detroit, Mich.
241	David Volkert & Associates, Inc., Mobile, Ala.
242	Harry Weese & Associates, Chicago, Ill.
243	Waldemar S. Nelson & Co., Inc., New Orleans, La.
244	Willdan Associates, Anaheim, Calif.
245	Johnson & Anderson, Inc., Pontiac, Mich.
246	McFarland-Johnson Engineers, Inc., Binghamton, N.Y.
247	John Portman & Associates, Atlanta, Ga.
248	Tippett & Gee, Inc., Abilene, Tex.
249	Freese and Nichols, Inc., Fort Worth, Tex.
250	Page Southerland Page, Austin, Tex.
✓	AWARE, Inc., Nashville, Tenn.

	TYPE OF FIRM #	ARCHITECTURAL	MECHANICAL	ENVIRONMENTAL	CIVIL ENG.	ELECTRICAL	CITY PLANS	CM	STRUCTURAL	TRANS.	PLNG.	JOBS ABROAD	ENR SUB-SCRIBERS
CE	..	..	✓	✓	..	✓	✓	✓	✓	✓	..	..	3
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	..	..	8
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	..	..	4
AE	✓	✓	..	✓	✓	..	..	✓	✓	✓	..	..	3
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
SE	..	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
AE	✓	✓	..	✓	✓	Geotechnical	✓	✓	✓	✓	✓	✓	3
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
CE	..	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
CE	..	✓	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	19
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	19
CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
AEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	12
A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
CE	..	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0

... Billings totaled \$5 million to \$6.99 million

	TYPE OF FIRM #	ARCHITECTURAL	MECHANICAL	ENVIRONMENTAL	CIVIL ENG.	ELECTRICAL	CITY PLANS	CM	STRUCTURAL	TRANS. PLNG.	JOBS ABROAD	ENR SUB-SCRIBERS
251	Gruzen & Partners, New York, N.Y.	AP	✓	..	..	..	✓	✓	✓	✓	✓	3
252	Midwest Technical, Inc., Cincinnati, Ohio	EA	✓	✓	..	✓	✓	✓	✓	✓	✓	5
253	Clinton Bogert Associates, Fort Lee, N.J.	CE	..	✓	✓	✓	..	✓	✓	✓	✓	13
254	HOH Engineers, Inc.-Harry O. Hefter Associates, Inc., Chicago, Ill.	CE	✓	✓	✓	✓	..	✓	✓	✓	✓	2
255	Langdon & Wilson, Los Angeles, Calif.	A	✓	..	..	..	..	..	..	..	..	1
256	Bendy Engineering Co., Earth City, Mo.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	4
257	Hayden, Harding & Buchanan, Boston, Mass.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
258	Gates Engineering Co., Beckley, W. Va.	EA	✓	..	✓	✓	..	✓	✓	✓	✓	6
259	LEA Inc., Boston, Mass.(aa)	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
260	Robert and Company Associates, Atlanta, Ga.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
261	Thompson, Ventulett, Stainback & Associates, Inc., Atlanta, Ga.	A	✓	..	..	..	..	..	..	..	..	2
262	Urbahn Associates, Inc., New York, N.Y.	A	✓	..	✓	..	✓	..	..	✓	✓	1
263	Davis & Floyd Inc., Greenwood, S.C.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
264	George S. Nolte and Associates, San Jose, Calif.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	4
265	Banner Associates, Inc., Laramie, Wyo.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
266	Globe Engineering Co., Chicago, Ill.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
267	DeWild Grant Reckerl & Assoc. Co., Rock Rapids, Iowa	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
268	KKBNA Inc., Denver, Colo.	CE	..	..	✓	..	..	✓	✓	✓	✓	7
269	H.W. Lochner, Inc., Chicago, Ill.	CE	..	✓	✓	..	..	✓	✓	✓	✓	12
270	Lutz, Dally & Braln, Shawnee Mission, Kan.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
271	Rose, Beaton & Rose/Rose, Chulokoff and Rose, White Plains, N.Y.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
272	Facilities Systems Engineering Co., Los Angeles, Calif.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
273	Rieke, Carroll, Muller Assoc., Inc., Hopkins, Minn.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
274	Leonard S. Wegman Co., Inc., New York, N.Y.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	10
275	Lev Zetlin Associates, Inc., New York, N.Y.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
276	Peckham Guyton Albers & Viets, Inc., St. Louis, Mo.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
277	Golemon & Rolfe, Houston, Tex.	A	✓	..	..	..	..	..	..	..	..	1
278	GRW Engineers, Inc., Lexington, Ky.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
279	Diaz, Seckinger & Associates, Inc., Tampa, Fla.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	4
280	Edward Durrell Stone Associates, New York, N.Y.	AP	✓	..	..	..	✓	✓	✓	✓	✓	2
281	Carl Walker & Associates, Inc., Kalamazoo, Mich.	EA	✓	..	✓	✓	✓	✓	✓	✓	✓	7
282	Watson and Company, Tampa, Fla.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
283	Mayes, Sudderth & Etheredge, Inc., Atlanta, Ga.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
284	Psomas & Associates, Santa Monica, Calif.	CEP	..	..	✓	✓	✓	✓	✓	✓	✓	3
285	Walter P. Moore and Associates, Inc., Houston, Tex.	CE	..	..	✓	✓	✓	✓	✓	✓	✓	7
286	The Ballinger Co., Philadelphia, Pa.	AE	✓	✓	..	✓	✓	✓	✓	✓	✓	3
287	Herman Blum Consulting Engineers, Inc., Dallas, Tex.	CE	..	✓	..	✓	✓	✓	✓	✓	✓	4
288	The Eggers Group P.C., New York, N.Y.	A	✓	..	..	..	..	..	..	..	..	1
289	The Ritchie Organization, Chestnut Hill, Mass.	A	✓	..	..	..	..	..	..	..	..	1
290	Zimmer Gunsel Frasca, Portland, Ore.	A	✓	..	..	..	..	..	..	..	..	0

Billings totaled \$3.5 million to \$4.99 million

291	Century Engineering, Inc., Towson, Md.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	16
292	Merrick & Company, Denver, Colo.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
293	Levingston Engineers, Inc., Lake Charles, La.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	0
294	Cole Associates, South Bend, Ind.	EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
295	Rochlin & Baran & Associates, Los Angeles, Calif.	AE	✓	✓	..	✓	✓	✓	✓	✓	✓	1
296	Pierce Goodwin Alexander, Houston, Tex.	A	✓	✓	..	✓	✓	✓	✓	✓	✓	1
297	Keyes Associates, Providence, R.I.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
298	Architects Hawaii, Honolulu, Hawaii	A	✓	..	✓	..	✓	..	..	..	..	0
299	Hammel, Green & Abrahamson, Inc., St. Paul, Minn.	AE	✓	✓	..	✓	✓	✓	✓	✓	✓	1
300	ARIX, A Professional Corp., Greeley, Colo.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	0

		TYPE OF FIRM #										ENR SUB- SCRIBERS
		ARCHITECTURAL	MECHANICAL	ENVIRONMENTAL	CIVIL ENGR.	ELECTRICAL	CITY PLANS	CM	STRUCTURAL	TRANS. PLNG.	JOBS ABROAD	
301	Creegan & D'Angelo, San Jose, Calif.	CE	..	..	✓	✓	..	✓	✓	✓	..	6
302	J.H. Kleinfelder & Associates, Walnut Creek, Calif.	SE	..	..	✓	..	..	..	..	✓	..	7
303	Minoru Yamasaki & Associates, Troy, Mich.	AE	✓	✓	..	..	..	..	..	✓	..	1
304	Allen & Hoshall, Inc., Memphis, Tenn.	EA	✓	✓	✓	✓	..	..	✓	..	..	4
305	GAI Consultants, Inc., Monroeville, Pa.	CE	..	..	✓	✓	..	..	✓	✓	✓	3
306	Neste, Brudin & Stone, Inc., San Diego, Calif.	CE	..	..	✓	✓	✓	✓	..	..	..	6
307	Chen & Associates, Denver, Colo.	SE	..	..	✓	✓	..	..	..	..	..	5
308	Craven, Thompson & Assoc., Inc., Fort Lauderdale, Fla.	Geotechnical										5
309	Carr Smith & Associates, Inc., Coral Gables, Fla. ..	EAP	✓	✓	✓	✓	✓	..	✓	✓	..	5
310	Barbay Engineers, Inc., Baton Rouge, La.	EA	✓	✓	✓	✓	✓	✓	✓	✓	..	6
311	Greenman-Pedersen Associate, Babylon, N.Y.	EA	✓	✓	✓	✓	..	..	✓	..	..	1
312	Erdman Anthony Associates, P.C., Rochester, N.Y.	EA	✓	..	✓	✓	..	✓	✓	✓	..	10
313	The Grad Partnership, Newark, N.J.	CE	..	..	✓	..	✓	..	✓	✓	..	10
314	Wilsey & Ham, Foster City, Calif.	A	✓	..	..	..	..	..	..	..	..	2
315	Aldrich Co., Inc., Cohasset, Mass.	CE	..	..	✓	✓	..	✓	..	✓	..	5
316	Kenneth Balk & Associates, St. Louis, Mo.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
317	T.Y. Lin International, San Francisco, Calif.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
318	W.F.E.M. Inc., Cambridge, Mass.	CE	✓	..	..	..	..	✓	✓	✓	✓	10
319	Winzler & Kelly, Eureka, Calif.	AP	✓	..	..	..	✓	✓	✓	✓	..	14
320	F.M. Fox & Associates, Inc., Wheat Ridge, Colo.	CE	..	✓	✓	✓	✓	✓	✓	✓	..	7
321	Ray Consulting Co., Inc., Highland Park, N.J.	SE	..	..	✓	✓	✓	✓	✓	✓	..	4
322	J.N. Pease Associates, Charlotte, N.C.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
323	Snell Environmental Group, Lansing, Mich.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
324	Superior Engineering Corp., Hammond, Ind.	CE	..	..	✓	✓	✓	✓	✓	✓	✓	6
325	Floyd Brown Assoc., Ltd., Marion, Ohio	CE	..	✓	✓	✓	✓	✓	✓	✓	..	5
326	Dufresne-Henry Inc., North Springfield, Ill.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	8
327	Stearns & Wheeler, Civil & Sanitary Engrs., Cazenovia, N.Y.	CE	..	✓	✓	✓	✓	✓	✓	✓	✓	6
328	Davis, Brody & Associates, New York, N.Y.	CE	✓	✓	..	✓	..	..	✓	..	..	7
329	Finch, Alexander, Barnes, Rothschild & Paschal, Atlanta, Ga.	A	✓	..	..	..	✓	..	..	✓	..	2
330	CUH2A, Princeton, N.J.	A	✓	..	..	..	..	..	..	✓	✓	3
331	John J. Harte Associates, Inc., Atlanta, Ga.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
332	The Klein Partnership Inc., Houston, Tex.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
333	McClellan Cruz Gaylord & Associates, Pasadena, Calif.	A	✓	..	..	..	..	..	..	..	..	0
334	The Orput Corporation, Willmette, Ill. (bb.)	A	✓	✓	..	✓	..	✓	✓	..	..	1
335	Simpson Gumpertz & Heger Inc., Cambridge, Mass.	CE	..	..	..	..	..	..	✓	..	✓	9
336	Hugh Stubbins & Associates, Inc., Cambridge, Mass.	CE	..	..	..	..	..	..	✓	..	✓	9
337	Phillips Swager Assoc. Inc., Peoria, Ill.	A	✓	..	..	..	✓	✓	✓	✓	✓	2
338	Weidinger Associates, New York, N.Y.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
339	EDAW, Inc., San Francisco, Calif.	CE	..	..	✓	✓	✓	✓	✓	✓	✓	3
340	Cooper, Clark & Associates, Palo Alto, Calif.	AP	..	..	✓	✓	✓	✓	✓	✓	✓	3
341	Morrison-Maierle, Inc., Helena, Mont.	SE	..	✓	✓	✓	✓	✓	✓	✓	✓	5
342	The Luckman Partnership, Inc., Los Angeles, Calif.	CE	..	..	✓	✓	✓	✓	✓	✓	✓	9
343	Patchen, Mingledorff & Associates, Augusta, Ga. ..	A	✓	..	..	✓	✓	✓	✓	✓	✓	1
344	Stevens & Wilkinson Architects Engineers Planners, Atlanta, Ga.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
345	Mueser, Rutledge, Johnston & DeSimone, New York, N.Y.	AEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
346	Church Engineering, Inc., Newport Beach, Calif. ...	CE	..	..	✓	✓	✓	✓	✓	✓	✓	20
347	Ciorba, Spies, Gustafson & Co., Kenilworth, Ill.	CE	..	..	✓	✓	✓	✓	✓	✓	✓	0
348	Mid-America Engineers, Inc., Chicago, Ill.	CE	..	..	✓	✓	✓	✓	✓	✓	✓	3
349	Schoor, De Palma & Gillen, Inc., Matawan, N.J. (cc)	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
350	Wright McLaughlin Engineers, Denver, Colo.	CE	..	..	✓	✓	✓	✓	✓	✓	✓	2
✓	Greenleaf Telesca Planners, Engr. Miami, Fla.	CE	..	..	✓	✓	✓	✓	✓	✓	✓	4
		EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	3

... Billings totaled \$3.5 million to \$4.99 million

	TYPE OF FIRM #	ARCHITECTURAL	MECHANICAL	ENVIRONMENTAL	CIVIL ENG.	ELECTRICAL	CITY PLANS	CM	STRUCTURAL	TRANS.	PLNG.	JOBS ABROAD	ENR SUB-SCRIBERS
351	Biernacki-Poray & Associates, Montclair, N.J.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
352	Laramore, Douglass and Popham, New York, N.Y.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
353	Poe & Associates, Tulsa, Okla.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
354	Singmaster & Breyer, New York, N.Y.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
355	Tryck, Nyman & Hayes, Anchorage, Alaska.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
356	Urban Engineers, Inc., Philadelphia, Pa.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	22
357	Polytech, Inc., Cleveland, Ohio.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
358	Modjeski & Masters, Harrisburg, Pa.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	22
359	Gordon Herkenhoff & Associates, Albuquerque, N.M.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
360	Calocerinos & Spina, Liverpool, N.Y.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
361	Schimpeler-Corradino Associates, Louisville, Ky...	EP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
362	Varney Sexton Sydnor, Phoenix, Ariz.....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
363	Cromwell Neyland Truemper Levy & Gatchell Inc., Little Rock, Ark.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
364	Algeier, Martin & Associates Inc., Joplin, Mo.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
365	Ehrlich-Rominger, Architects, Palo Alto, Calif.....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
366	Smith and Gillespie Engineers, Inc., Jacksonville, Fla.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
367	Odell Associates Inc., Charlotte, N.C.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
368	Process Design Associates, Inc., Chicago, Ill.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
369	Perez Associates, Inc., New Orleans, La.....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
370	LeRoy Crandall & Associates, Los Angeles, Calif..	SE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
371	Geran Associates, Fort Worth, Tex.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
372	Hoyem-Basso Associates, Inc., Bloomfield Hills, Mich.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
373	KZF Inc., Cincinnati, Ohio.....	AEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
374	Meyer Strong & Jones, New York, N.Y.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
375	Benjamin Thompson & Associates, Inc., Cambridge, Mass.....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
376	Beling Consultants, Inc., Moline, Ill.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
377	ABAM Engineers, Inc., Tacoma, Wash.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
378	Enpro Corporation, Sioux Falls, S.D.(dd).....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
379	Huth Engineers, Inc., Lancaster, Pa.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
380	Hardesty & Hanover, New York, N.Y.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
381	J-U-B Engineers, Inc., Boise, Idaho.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
382	Schoenfeld Associates, Inc., Boston, Mass.....	EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
383	Centennial Engineering Inc., Arvada, Colo.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
384	Cella, Barr, Evans & Assoc., Tucson, Ariz.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
385	Flaherty Giavara Associates, P.C., New Haven, Conn.....	EAP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
386	Goodkind & O'Dea, Inc., Clifton, N.J.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14
387	Millard Archuleta Associates, Los Angeles, Calif...	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
388	Raymond Vail & Associates, Sacramento, Calif....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
389	Marmac Systems Engineering, Long Beach, Calif.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
390	Alfred Benesch & Co., Chicago, Ill.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
391	Sargent-Webster-Crenshaw & Folley, Syracuse, N.Y.....	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
392	Lozier Architects/Engineers, Rochester, N.Y.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
393	Bartkus & Associates, Inc., Chicago, Ill.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
394	CHHK, Inc., Silver Spring, Md.....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
395	Jones Associates, Bellevue, Wash.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
396	KPFF Inc., Seattle, Wash.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
397	Nussbaumer & Clarke, Inc., Buffalo, N.Y.....	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
398	Emery Roth & Sons, P.C., New York, N.Y.....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
399	Shepley Bulfinch Richardson & Abbott, Boston, Mass.....	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
400	Turner Engineering Co., Nashville, Tenn.....	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2

		TYPE OF FIRM #	ARCHITECTURAL	MECHANICAL	ENVIRONMENTAL	CIVIL ENG.	ELECTRICAL	CITY PLANS	CM	STRUCTURAL	TRANS. PLNG.	JOBS ABROAD	ENR SUB- SCRIBERS
401	FCL and Associates, Inc.,/FCL International, Inc., Chicago, Ill.	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
402	Hurst-Rosche Engineers, Inc., Hillsboro, Ill.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
403	Setter, Leach & Lindstrom, Inc., Minneapolis, Minn.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
404	Capacete, Martin & Associates, San Juan, P.R.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
405	Hazlet & Erdal, Louisville, Ky.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
406	Architectonics, Inc., Dallas, Tex.	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
407	Krehbiel Associates, Inc., Tonawanda, N.Y.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
408	John G. Reutter Associates, Camden, N.J.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5

Billings totaled \$3.17 million to \$3.49 million

409	Charles R. Velzy Associates, Inc., Armonk, N.Y.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11
410	D.M. Weatherly Co., Atlanta, Ga.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
411	Sidney B. Bowne & Son, Mineola, N.Y.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
412	Graef, Anhalt & Schloemer & Associates, Milwaukee, Wis.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
413	Bucher & Willis, Consulting Engineers, Planners & Architects, Salina, Kan.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
414	Ruth and Going, Inc., San Jose, Calif.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
415	Beiswenger, Hoch & Associates, Inc., N. Miami Beach, Fla.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
416	Finkbeiner, Pettis & Strout, Ltd., Toledo, Ohio	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
417	Brubaker/Brandt, Inc., Columbus, Ohio	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
418	James Associates, Indianapolis, Ind.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
419	Murphy Engineering, Inc., Chicago, Ill.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
420	Parametrix, Inc., Eugene, Ore.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	19
421	Prof. Engineering Consultants, Wichita, Kan.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
422	Taylor Wiseman & Taylor, Mt. Laurel, N.J.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
423	Richardson, Gordon & Associates, Inc., Pittsburgh, Pa.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	12
424	Jacobs Associates, San Francisco, Calif.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
425	Trico Corporation, Scottsdale, Ariz.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
426	Burk & Associates, New Orleans, La.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
427	Baker-Wibberley & Assoc., Inc., Hagerstown, Md. .	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
428	Lorenz & Williams, Inc., Dayton, Ohio	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
429	The Durrant Group Inc., Dubuque, Iowa	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
430	Edward H. Richardson Assoc., Inc., Newark, Del. .	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
431	Archsystems, Van Nuys, Calif.	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
432	Century West Engineering Corp. Bend, Ore.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
433	John David Jones & Assoc., Inc., Cuyahoga Falls, Ohio	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
434	Marathon Engineering, Inc., Menasha, Wis.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
435	Pavlo Engineering, New York, N.Y.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
436	Soll Systems, Inc., Marietta, Ga.	SE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
437	Francis G. Vitetta Associates, Westville, N.J.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
438	Heyer, Johns, Neel, Rivers & Webb, Monroe, La. ...	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
439	Wehran Engineering, Middletown, N.Y.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
440	Fletcher-Thompson, Inc., Bridgeport, Conn.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
441	Binkley & Holmes, Inc., Houston, Tex.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
442	Garver & Garver, Inc., Little Rock, Ark.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
443	Blauvelt Engineering Corp., New York, N.Y.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
444	Rossi & Nickerson, Inc., Toledo, Ohio	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
445	Richard Browne Associates, Wayne, N.J.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
446	D'Ambly, Inc., Philadelphia, Pa.	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
447	Olympic Associates Co., Seattle, Wash. (ee)	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0
448	The Schemmer Associates Inc., Omaha, Neb.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
449	Enwright Associates, Inc., Greenville, S.C.	EA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
450	Neptune & Thomas Associates, Pasadena, Calif.	AE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1

. . . the largest 50 design-constructors

CONSTRUCTION value of new 1979 contracts

Based on design-construct plus design-only contracts
valued at estimated cost of project

Based on design-build contract plus design-only contracts valued at estimated cost of project		1979 VOLUME (IN \$ MILLIONS)		CONSTRUCTION SPECIALTY					ENR SUB- SCRIBERS
		TOTAL	FOREIGN	HEAVY	BUILD- ING	MFG. PLANT	POWER- PLANT		
1	The Parsons Corp., Pasadena, Calif. (a).....	6,605.5	1,167.1	✓	✓	✓	✓	339	
2	Fluor Corp., Irvine, Calif. (b)	4,644.5	3,923.7	✓	✓	✓	✓	663	
3	Bechtel Group of Companies, San Francisco.....	3,809.7	3,425.1	✓	✓	✓	✓	1,457	
4	Dravo Corporation, Pittsburgh, Pa.(c).....	3,223.4	1,446.7	✓	✓	✓	✓	275	
5	C-E Lummus, Bloomfield, N.J.	3,182.0	2,400.0	..	..	✓	..	69	
6	The Rust Engineering Co., Birmingham, Ala.	2,925.1	1,052.3	✓	✓	✓	..	83	
7	Ebasco Services, Inc., New York, N.Y.	2,637.0	150.0	✓	✓	✓	✓	322	
8	Pullman Kellogg Div. of Pullman, Inc., Houston...	2,500.0	2,000.0	✓	..	✓	✓	101	
9	Morrison-Knudsen Co., Inc., Boise, Ida. (d) ..	2,111.4	382.2	✓	✓	✓	✓	404	
10	Burns & Roe, Inc., Oradell, N.J.	2,099.2	16.0	✓	..	..	✓	127	
11	Brown & Root, Inc., Houston, Tex.	1,944.6	481.3	✓	✓	✓	✓	500	
12	The Austin Co., Cleveland, Ohio	1,943.0	507.0	..	✓	✓	✓	162	
13	United Engineers and Constructors Inc., Philadelphia, Pa.	1,883.0	800.0	..	✓	✓	✓	254	
14	Davy Inc., Cleveland, Ohio (e)	1,856.8	579.5	✓	..	✓	✓	179	
15	Stone & Webster, Inc., Boston, Mass.....	1,700.0*	n.a.	✓	✓	✓	✓	505	
16	Foster Wheeler Corp., Livingston, N.J.	1,559.0	882.0	..	..	✓	✓	91	
17	The Kulljian Corp., Philadelphia, Pa.	1,421.0	1,100.0	✓	..	✓	..	2	
18	C.F. Braun & Co., Alhambra, Calif.	1,228.0	716.0	✓	..	✓	✓	75	
19	Jacobs Engineering Group Inc., Pasadena, Calif.	1,163.6	128.3	✓	✓	✓	..	67	
20	Stearns-Roger Corp., Denver, Colo.	1,151.9	25.5	..	✓	✓	✓	153	
21	Catalytic Inc., Philadelphia, Pa.	825.0	175.0	..	..	✓	✓	111	
22	Ford, Bacon & Davis, Inc., New York, N.Y. (f)	766.5	73.4	✓	..	✓	✓	40	
23	Raymond International, Inc., Houston, Tex. (g) ...	715.4	107.9	✓	✓	✓	✓	315	
24	Day & Zimmermann, Inc., Philadelphia, Pa.	542.0	110.6	..	✓	✓	..	24	
25	PCL Construction Ltd., Denver, Colo.	430.0	312.0	..	✓	..	..	1	
26	Mountain States Mineral Enterprises, Tucson, Ariz.	373.2	358.0	..	..	✓	..	1	
27	The Badger Co., Inc., Cambridge, Mass.....	367.2*	99.4	..	..	✓	..	23	
28	HBE Corp., St. Louis, Mo. (h)	358.4	0	..	✓	..	..	62	
29	Crawford & Russell, Inc., Stamford, Conn.	288.0	48.0	..	..	✓	..	25	
30	Procon International, Inc., Des Plaines, Ill.	277.1	55.7	✓	..	✓	..	47	
31	Charles Pankow, Inc., Altadena, Calif.	254.0	0	..	✓	..	..	12	
32	Blount International, Ltd., Montgomery, Ala.	253.1	0	✓	✓	✓	✓	122	
33	Santa Fe International Corp., Orange, Calif.	237.0	105.5	✓	..	..	..	41	
34	L.K. Comstock & Co., Inc., Danbury, Conn. (i)	230.6	50.0	✓	✓	✓	✓	39	
35	B E & K, Inc., Birmingham, Ala.	215.0	0	..	✓	✓	..	49	
36	Cunningham-Limp Co., Birmingham, Mich.	210.5	14.7	..	✓	✓	..	9	
37	George A. Fuller Co., New York, N.Y.	198.0	6.0	✓	✓	✓	..	70	
38	The Carlson Group, Inc., Cochituate, Mass.	172.0	0	✓	✓	✓	..	22	
39	The Ortloff Corp., Midland, Tex.	159.1	0	..	..	✓	..	9	
40	Barnard and Burk, Inc., Pasadena, Calif.	140.5	11.0	✓	✓	✓	..	12	
41	Bank Building Corp., St. Louis, Mo.	126.6	0	..	✓	..	..	33	
42	Koppers Co., Inc., Pittsburgh, Pa.	118.6	17.8	..	..	✓	..	53	
43	Rauenhorst Corp., Bloomington, Minn.	111.0	0	..	✓	✓	..	14	
44	Huber, Hunt & Nichols, Indianapolis, Ind.	108.0	0	..	✓	✓	..	29	
45	The A. Epstein Companies, Inc., Chicago, Ill.	107.0	84.6	..	✓	✓	..	7	
46	Treadwell Corp., New York, N.Y.	104.5	0	..	✓	✓	✓	7	
47	Monsanto Enviro-Chem Systems, Inc., St. Louis ..	98.0	0	..	..	✓	..	21	
48	Corrao Construction Co., Inc., Reno, Nev.	92.8	0	..	✓	..	..	2	
49	Berry Contracting Co., Corpus Christi, Tex.	90.0	0	..	..	✓	✓	1	
50	World-Wide Const. Svc., Inc., Wichita, Kan.	82.0	0	..	..	✓	..	5	
*ENR estimated n.r. not reported									
✓	Heyward-Robinson Co., New York, N.Y.	557.0	259.0	✓	..	✓	✓	23	

✓ Awards would rank firm No. 24

1. Firm Name / Business Address:
Davis & Floyd, Inc.P. O. Drawer 428, 1319 Reynolds Avenue
Greenwood, South Carolina 296461a. Submittal is for ☐ Parent Company ☐ Branch Office2. Year Present Firm
Established: 1954

3. Date Prepared:

1-28-81

4. Type of Ownership:

4a. Minority Owned ☐ yes ☒ no

5. Name of Parent Company, if any:

N/A

5a. Former Firm Name(s), if any, and Year(s) Established:

N/A

6. Names of not more than Two Principals to Contact: Title / Telephone

1) Ennrett I. Davis President (803) 229-5211
2) Phil R. Floyd Vice President (803) 554-8602

7. Present Offices: City / State / Telephone / No. Personnel Each Office

Greenwood, South Carolina (803) 229-5211 89
Charleston Heights, South Carolina (803) 554-8602 43

7a. Total Personnel 132

8. Personnel by Discipline:

18 Administrative
 1 Architects
 3 Chemical Engineers
 12 Civil Engineers
 8 Construction Inspectors
 22 Draftsmen
 2 Ecologists
 1 Economists

2 Electrical Engineers
 2 Estimators
 — Geologists
 — Hydrologists
 — Interior Designers
 2 Landscape Architects
 2 Mechanical Engineers
 — Mining Engineers

Oceanographers
 2 Planners: Urban/Regional
 6 Sanitary Engineers
 1 Soils Engineers
 2 Specification Writers
 5 Structural Engineers
 10 Surveyors
 1 Transportation Engineers

4 Biologists
 2 Construction Managers
 4 Lab Technicians
 1 Pilot
 1 Printer
 1 Maintenance
 18 Rodmen

9. Summary of Professional Services Fees

Received: (insert index number)

Last 5 Years (most recent year first)

19 79	19 78	19 77	19 76	19 75
2	2	2	1	1
7	6	6	6	6

Direct Federal contract work, including overseas

All other domestic work

All other foreign work*

*Firms interested in foreign work, but without such experience, check here: ☐.

Ranges of Professional Services Fees

INDEX

1. Less than \$100,000
2. \$100,000 to \$250,000
3. \$250,000 to \$500,000
4. \$500,000 to \$1 million
5. \$1 million to \$2 million
6. \$2 million to \$5 million
7. \$5 million to \$10 million
8. \$10 million or greater

10. Profile of Firm's Project Experience, Last 5 Years

Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)
1) 004	14	165	11) 043	19	520	21) 087	5	475
2) 006	2	420	12) 046	5	175	22) 088	3	840
3) 011	5	375	13) 052	8	1140	23) 095	6	210
4) 013	12	180	14) 053	12	330	24) 096	12	3200
5) 016	4	340	15) 054	18	720	25) 099	3	120
6) 021	4	720	16) 072	3	600	26) 102	100 +	1460
7) 025	3	160	17) 075	1	500 +	27) 104	4	480
8) 033	6	240	18) 077	6	720	28) 113	5	625
9) 039	4	120	19) 078	5	780	29) 115	14	1600
10) 042	2	440 +	20) 082	1	160	30) 201	200 +	800

11. Project Examples, Last 5 Years

Profile Code	"P", "C", "JV", or "IE"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
004	"P"	1 Install Stack Scrubbers to Remove Acid Mist and Particulate Graniteville Plant Graniteville, South Carolina	The Graniteville Company Graniteville, South Carolina 29829	310	1977
006	"JV"	2 Charleston International Airport New Terminal, Parking Aprons, Taxiways Roads, and Supporting Facilities	Charleston County Aviation Authority Charleston International Airport Charleston, South Carolina 29411	50,000	1983
011	"P"	3 Grade Separation Structure Golden Strip Freeway Greenville County, South Carolina	South Carolina Department of Highways and Public Transportation Columbia, South Carolina	1,320	1979
013	"P"	4 Heavy Metals Removal and Handling Facilities, Sangamo Plant Walhalla, South Carolina	Sangamo Weston Electric Company Walhalla South Carolina 29691	300	1977
016	"P"	5 Cold Storage, Refrigeration, and Warehouse Facilities, Thomasville, Ga. Atlanta, Ga., Raleigh, N. C.	Colonial Stores, Inc. Sylvan Road Atlanta, Georgia 30344	2,400	1977
021	"P"	6 Construction of Additional Manufacturing and Warehouse Facilities Camden, Heath Springs and Cheraw, S.C.	Elkay Industries, Inc. (A Division of Skyline Industries) Camden, South Carolina 29020	2,345	1978
025	"P"	7 Construction of Lake Long Dam and Related Facilities Union County, South Carolina	South Carolina Wildlife and Marine Resources Commission Columbia, South Carolina 29201	420	1977

033	"P"	8Lake Otwell Destination Park Oconee County, South Carolina	South Carolina Department of Parks Recreation and Tourism, P. O. Box 1358 Columbia, South Carolina 29202	65,000 (Fee Only)	1980
039	"P"	3Horse Creek Regional Pollution Control Facilities, Central Garage, Vehicle Main. Facility, Aiken County, S. C.	Aiken County Public Service Authority Post Office Box 6548 North Augusta, South Carolina 29841	1,600	1979
042	"P"	10Ship Terminal Facilities, Pier & Bulk- head, Petroleum Products Handling Savannah, Georgia	Carolina Refining and Distributing Company, Post Office Box 10 Old Greenwich, Connecticut 06870	12,400	1982
043	"P"	11Additions and Modifications to HVAC Systems - Dry Products Manufacturing Area, Greenwood, South Carolina	Parke, Davis & Company Medical-Surgical Division Greenwood, South Carolina 29646	1,240	1979
046	"JV"	12Charleston International Airport Expansion of Access Roads, Taxiways, Aprons, Parking Fac., Charleston, S.C.	Charleston County Aviation Authority Charleston International Airport Charleston, South Carolina 29411	50,000	1985
052	"P"	13Addition to Capacitor Manufacturing Plant and Support Facilities Pickens, South Carolina	Sangamo Capacitor Division, A Division of Sangamo Weston, Inc., P. O. Box 128 Pickens, South Carolina 29671	1,800	1979
053	"P"	14Chemical Process Development and Quality Control System Pickens, South Carolina	Sangamo Capacitor Division, A Division of Sangamo Weston, Inc., P. O. Box 128 Pickens, South Carolina 29671	720	1979
054	"P"	15Industrial Waste Treatment Facilities Cel River Plant Rock Hill, South Carolina	Celanese Corporation of America Cel River Plant Rock Hill, South Carolina 29730	3,200	1978
072	"JV"	16Strom Thurmond Federal Office Building and U. S. Courthouse Columbia, South Carolina	General Services Administration 1776 Peachtree Street Atlanta, Georgia 30304	26,400	1979
075	"P"	1730,000 BBL/Day Oil Refinery and Support Facilities(excluding Water- front) Savannah, Georgia	Carolina Refining and Distributing Company, Post Office Box 10 Old Greenwich, Connecticut 06870	100,000 +	1982
077	"P"	1848,000 LF 24" & 36" Finish Water Supply Transmission Line Sullivan County, Tennessee	City of Bristol, Tennessee Post Office Drawer 417 Bristol, Tennessee 37620	4,800	1980
078	"P"	19Area Wide 201 Planning Program Sullivan County, Tennessee Washington County, Virginia	City of Bristol, Tennessee Post Office Drawer 417 Bristol, Tennessee 37620	452 (Fee Only)	1979

082	"P"	20 Repairs and Modifications Main Post Office Columbia, South Carolina	U. S. Postal Service Post Office Box 22725 Tampa, Florida 33622	1,400	1980
087	"P"	21 Railroad and Highway Relocation Signalization and Upgrading Project Greenwood County, South Carolina	City of Greenwood City Hall Greenwood, South Carolina 29646	7,800	1981
088	"JV"	22 Lake Hartwell Destination Park Oconee County, South Carolina	South Carolina Department of Parks Recreation and Tourism, P. O. Box 1358 Columbia, South Carolina 29202	12,000	1981
095	"JV"	23 Strom Thurmond Federal Office Building and U. S. Courthouse Columbia, South Carolina	General Services Administration 1776 Peachtree Street Atlanta, Georgia 30304	26,400	1979
096	"P"	24 Horse Creek Regional Pollution Control Facilities (Phase I) Aiken County, South Carolina	Aiken County Public Service Authority Post Office Box 6548 North Augusta, South Carolina	37,885	1979
099	"P"	25 Sludge Incinerator Wastewater Treatment Plant No. 2 Bristol, Tennessee	City of Bristol, Tennessee Post Office Drawer 417 Bristol, Tennessee 37620	1,620	1977
102	"P"	26 Richard B. Russell Dam and Reservoir Property Acquisition and Water Line Surveys, South Carolina and Georgia	U. S. Corps of Engineers Post Office Box 889 Savannah, Georgia 31402	625 (Fee Only)	1979
104	"P"	27 Storm Drainage Project, 17,000 Acres, City of North Charleston, South Carolina	City of North Charleston City Hall North Charleston, South Carolina 29411	20,000	1984
113	"P"	28 Construction of Warehouse, Shop and Bagging Facilities Harleyville, South Carolina	Giant Portland Cement & Masonry Co. Post Office Box 218 Harleyville, South Carolina 29448	2,320	1980
115	"P"	29 Raw Water Intake, 10 MGD Treatment Plant, Distribution and Storage Sullivan County, Tennessee	City of Bristol, Tennessee Post Office Drawer 417 Bristol, Tennessee 37620	12,950	1980
201	"P"	30 General Water and Air Laboratory Sampling, Analysis and Reports Southeast, United States	Multiple Clients Throughout South- eastern United States	800 (Fee Only)	Continuing
12. The foregoing is a statement of facts Signature: 			Date: January 28, 1981		
			E. I. Davis, President		

THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

ARCHITECTS ENGINEERS REVIEW BOARD
QUESTIONNAIRE

Date

FIRM NAME *See Exhibit A
Universal Engineering Corporation *

TYPE OF ORGANIZATION
Corporation

NAMES OF PRINCIPALS OF FIRM
Emmett I. Davls, Chairman
David E. Nassif, President
Charles Y. Hitchcock, Jr., Exec. Vice President
Phil R. Floyd, Senior Vice President

PRESENT BRANCH OFFICES
ADDRESS AND TELEPHONE NO.
Davis & Floyd, Engineers, Inc.
Greenwood and Charleston, South Carolina
803-229-5211 803-554-8602

YEAR ESTABLISHED 1953
YEAR INCORPORATED 1981

NAME OF PARENT COMPANY, IF ANY

FORMER NAME IF ANY

MASS. REGISTERED IN MASSACHUSETTS
Yes(X) No()

MINORITY OWNED
Yes() No(X)

PERSON IN CHARGE

E. I. Davls - Greenwood, S.C.
P. R. Floyd - Charleston, S.C.

KEY PERSONNEL OF FIRM

ARCHITECTS

Ralph J. Gunter

MECHANICAL ENGINEERS

LANDSCAPE ARCHITECTS

ELECTRICAL ENGINEERS

CIVIL ENGINEERS

Vernon J. LeBlanc
Cliff A. Proos

HYDRAULIC ENGINEERS

Giovanni T. Aurillo

GEOTECHNICAL ENGINEERS

STRUCTURAL ENGINEERS
Thomas R. Parelo
Paul N. Park
Raymond J. Roy

TRAFFIC ENGINEERS

William D. Carlson

REGISTERED SURVEYORS

J. Preston LeBlanc

OTHER KEY PERSONNEL

Joseph J. Cammarata, (Construction Supervisor)

ENVIRONMENTALISTS (Indicate Specialty)

Domenic V. Tutela, Water & Sewer
James A. Pappas, WW Treat. Plant
William J. Shirreff, WW Treat. Plant
PLANNERS (Indicate Specialty)

NUMBER OF PERSONNEL IN PRESENT ORGANIZATION

Located At	Admin Officers	Arch.	ENGINEERS			Planners	Surveyors	Technicians	Drafts Persons	Others	Totals
			Civil	Struct	Environ	Traffic	Others				
Home Office	3	1	7	8	12	1	5	1	9	6	54
Branch S.C.	17	2	12	4	7	1	25	10	21	27	132
Totals	20	3	19	12	19	2	30	11	30	33	185

NUMBER OF PERSONNEL IN YOUR ORGANIZATION DURING LAST 5 YEARS

MAXIMUM NO.	YEAR	NORMAL NO.
68	1979	50 - 70

SUB CONSULTANTS AND OTHER ASSOCIATES USUALLY EMPLOYED BY YOUR FIRM

CATEGORY	NAME OF FIRM OR OTHER INDIVIDUAL AND ADDRESS	CATEGORY	NAME OF FIRM OR OTHER INDIVIDUAL AND ADDRESS
ARCHITECTS	Edward Durell Stone, New York, New York James J. Sullivan, Braintree, MA Stull Associates, Boston, MA	GEOTECHNICAL ENGINEERS	Geotechnical Engineers Inc.-Winchester, MA Goldberg-Zoino & Assoc.-Sollis-Cambridge, MA
LANDSCAPE ARCHITECTS	Mortece & Gary, Inc., Cambridge, MA Edward D. Stone, Jr., Ft. Lauderdale, Florida	TRAFFIC ENGINEERS	
CIVIL ENGINEERS		ENVIRONMENTALISTS	AWARE, Inc., Houston, Texas
STRUCTURAL ENGINEERS	Simpson, Gumpertz & Heger, Inc. Cambridge, MA	PLANNERS	
MECHANICAL ENGINEERS	McCarron, Hufnagle & Vegkley, Boston, MA	REGISTERED SURVEYORS	
ELECTRICAL ENGINEERS	EBM, Inc., Winchester, MA	OTHER CONSULTANT AFFILIATIONS	Carr Research Laboratory, Inc., -Noise & Air Quality, Wellesley, MA Childs Engineering Corp., -Marine Facilities-Medfield, MA New England Research, Inc., -Water Quality Assessment, Worcester, MA
HYDRAULIC ENGINEERS			

INDICATE THE TYPES OF PROJECTS IN WHICH YOUR FIRM IS CURRENTLY QUALIFIED IN ORDER OF PRIORITY (Additional specialties may be added in spaces below)

3 AIR CONDITIONING-REFRIG-VENT	1 HIGHWAYS	3 PHOTOGRAMMETRY	3 Buildings-Commercial & Ind.
AIR QUALITY	HOUSING	PUBLIC BUILDINGS	1 Environmental
ARCHAEOLOGY	2 LANDSCAPE STUDIES	RAILROADS - RAPID TRANSIT	3 Jet Test Facilities &
BRIDGES	LANDSCAPE ARCHITECTURE	RESEARCH & DEVELOPMENT	Instrumentation
CHANNEL WORK	LAND USE PLANNING	SURVEYS & PLANS	
COMMUNICATIONS	MANAGEMENT STUDIES	1 UTILITIES	
2 CONSTRUCTION MANAGEMENT	MARINE BIOLOGY	1 WATER QUALITY	
2 DRAINAGE	MASTER PLANNING	WATER - SEWER	
ECONOMIC & SOCIAL STUDIES	MATERIAL TESTING		
ELECTRONIC FACILITIES	NATURAL ENVIRONMENT		
GEOTECHNICAL-SOIL STUDIES	NOISE STUDIES		
4 HARBOR FACILITIES	PARKING GARAGES		

DESCRIBE THE TYPE OF SERVICES WHICH YOUR FIRM PROVIDES WITHOUT THE USE OF SUB CONSULTANTS OR OTHER ASSOCIATES
 Engineering Investigations, Surveys, Reports, Design and Supervision of Construction, Architectural, Civil, Structural, Highway, Surveys, Right-of-Way, Water, Sewers, Wastewater Treatment.

PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES WITHIN YOUR FIRM
(Furnish complete data but keep to essentials)

A. NAME (Last, first-middle initial) Davis, Emmett I.					D. NAME (Last, first-middle initial) Floyd, Phil R.				
DATE OF BIRTH (Month-day-year)	YEARS OF EXPERIENCE	AS PRINCIPAL IN THIS FIRM	AS PRINCIPAL IN OTHER FIRMS	OTHER THAN PRINCIPAL	DATE OF BIRTH (Month-day-year)	YEARS OF EXPERIENCE	AS PRINCIPAL IN THIS FIRM	AS PRINCIPAL IN OTHER FIRMS	OTHER THAN PRINCIPAL
5-24-29			27	-	10-15-26		27		-
EDUCATION (College, degree, year, specialization)					EDUCATION (College, degree, year, specialization)				
Citadel University, B.S.C.E., 1950					Clemson University, B.S.C.E., 1949				
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS					MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS				
A.S.C.E., A.S.T.M.					A.S.C.E.				
REGISTRATION (Type, year, State)					REGISTRATION (Type, year, State)				
P.E. 1954 - South Carolina					P.E. 1959 - South Carolina, P.E. 1969 - Virginia				
B. NAME (Last, first-middle initial) Nassif, David E.					E. NAME (Last, first-middle initial) Gunter, Ralph J.				
DATE OF BIRTH (Month-day-year)	YEARS OF EXPERIENCE	AS PRINCIPAL IN THIS FIRM	AS PRINCIPAL IN OTHER FIRMS	OTHER THAN PRINCIPAL	DATE OF BIRTH (Month-day-year)	YEARS OF EXPERIENCE	AS PRINCIPAL IN THIS FIRM	AS PRINCIPAL IN OTHER FIRMS	OTHER THAN PRINCIPAL
5-30-24		28	3	4	10-18-16		17		25
EDUCATION (College, degree, year, specialization)					EDUCATION (College, degree, year, specialization)				
Dartmouth College, B.S.C.E., 1946					London University, Coventry Technical College Boston Architectural Center Mass. Inst. Tech. Extension Courses				
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS					MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS				
Dartmouth Society of Engineering									
REGISTRATION (Type, year, State)					REGISTRATION (Type, year, State)				
P.E. 1960 - Mass.					P.E. 1972 - Mass.				
C. NAME (Last, first-middle initial) Hitchcock, Jr., Charles Y.					F. NAME (Last, first-middle initial) LeBlanc, Preston J.				
DATE OF BIRTH (Month-day-year)	YEARS OF EXPERIENCE	AS PRINCIPAL IN THIS FIRM	AS PRINCIPAL IN OTHER FIRMS	OTHER THAN PRINCIPAL	DATE OF BIRTH (Month-day-year)	YEARS OF EXPERIENCE	AS PRINCIPAL IN THIS FIRM	AS PRINCIPAL IN OTHER FIRMS	OTHER THAN PRINCIPAL
2-15-17		1	22	16	12-25-32		17	0	10
EDUCATION (College, degree, year, specialization)					EDUCATION (College, degree, year, specialization)				
Dartmouth College, A.B., 1938 Thayer School of Engineering, C.E., 1939					Northeastern University, A.S.C.E., 1968				
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS					MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS				
A.S.C.E., A.P.W.A., M.W.W.A., N.E.W.W.A., W.P.C.F.					A.S.C.E., Nat'l. & Mass. Societies of Prof. Engineers E. Mass. Assoc. - Land Surveyors, Inc., A.C.S.M.				
REGISTRATION (Type, year, State)					REGISTRATION (Type, year, State)				
P.E. 1947 - Mass., P.E. 1950 - N.Y., P.E. 1955 - R.I.					P.E. 1970 - Mass., P.E. 1978 - N.H., R.L.S. 1962 - Mass.				

PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES WITHIN YOUR FIRM
(Furnish complete data but keep to essentials)

J. NAME (Last-first-middle initial)

G. NAME (Last-first-middle initial) Tutela, Domenic V.		AS PRINCIPAL IN THIS FIRM 11		AS PRINCIPAL IN OTHER FIRMS 4		OTHER THAN PRINCIPAL 11	
DATE OF BIRTH (Month-day-year) 8-25-35		YEARS OF EXPERIENCE		AS PRINCIPAL IN THIS FIRM		AS PRINCIPAL IN OTHER FIRMS	
EDUCATION (College, degree, year, specialization) Northeastern University, A.S.C.E., 1963 Northeastern University, B.S.E.T., 1967							
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS Boston Society of Civil Engineers, M.W.W.A., N.E.W.W.A., W.P.C.F., N.E.W.P.C.A.							
REGISTRATION (Type, year, State) P.E. 1975 - Mass., P.E. 1975 - R.I.							
H. NAME (Last-first-middle initial) Parello, Thomas R.		AS PRINCIPAL IN THIS FIRM 11		AS PRINCIPAL IN OTHER FIRMS		OTHER THAN PRINCIPAL 15	
DATE OF BIRTH (Month-day-year) 3-13-31		YEARS OF EXPERIENCE		AS PRINCIPAL IN THIS FIRM		AS PRINCIPAL IN OTHER FIRMS	
EDUCATION (College, degree, year, specialization) Northeastern University, B.S.C.E., 1956 Northeastern University, M.S.C.E., 1964 (Structures)							
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS A.S.C.E., B.S.C.E., Nat'l. Society of Prof. Engineers M.S.P.E. (Member of Board-Metropolitan Chapter)							
REGISTRATION (Type, year, State) P.E. 1964 - Mass.							
I. NAME (Last-first-middle initial) Park, Paul N.		AS PRINCIPAL IN THIS FIRM 8		AS PRINCIPAL IN OTHER FIRMS		OTHER THAN PRINCIPAL 21	
DATE OF BIRTH (Month-day-year) 9-3-35		YEARS OF EXPERIENCE		AS PRINCIPAL IN THIS FIRM		AS PRINCIPAL IN OTHER FIRMS	
EDUCATION (College, degree, year, specialization) Northeastern University, B.S.C.E., 1972							
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS							
REGISTRATION (Type, year, State) P.E. 1974 - Mass.							
K. NAME (Last-first-middle initial)		AS PRINCIPAL IN THIS FIRM		AS PRINCIPAL IN OTHER FIRMS		OTHER THAN PRINCIPAL	
DATE OF BIRTH (Month-day-year)		YEARS OF EXPERIENCE		AS PRINCIPAL IN THIS FIRM		AS PRINCIPAL IN OTHER FIRMS	
EDUCATION (College, degree, year, specialization)							
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS							
REGISTRATION (Type, year, State)							
L. NAME (Last-first-middle initial)		AS PRINCIPAL IN THIS FIRM		AS PRINCIPAL IN OTHER FIRMS		OTHER THAN PRINCIPAL	
DATE OF BIRTH (Month-day-year)		YEARS OF EXPERIENCE		AS PRINCIPAL IN THIS FIRM		AS PRINCIPAL IN OTHER FIRMS	
EDUCATION (College, degree, year, specialization)							
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS							
REGISTRATION (Type, year, State)							

PRESENT ACTIVITIES ON WHICH YOUR FIRM IS DESIGNATED ARCHITECT OR ENGINEER OF RECORD

NAME AND TYPE OF PROJECT	LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETED	
				DESIGN	CONSTR
Design of Improvements to Huntington Ave. under Urban Systems program. Includes widening of roadways, right-of-way, street light- ing, traffic signals, utility and drainage, signs and pavement markings, replace- ment of trees, new and relocated walks, pedestrian overpass and widening of Mass. Ave. bridge.	Boston, Ma	Comm. of Mass. Dept. of Public Works	\$9,900,000	100	95
Reconstruction of Bridges	Providence, Pawtucket, Warwick Urbanized Area	Comm. of Mass. Dept. of Public Works	1,500,000	14	10
Urban renewal project and site improvements such as streets, parks, playground landscaping, lighting, water, drainage, sanitary sewers, traffic control systems, etc., for approximately 530 acres in the Fenway Area of Boston	Boston, Ma	City of Boston Boston Redevelopment Authority	20,000,000	95	80
TOTAL NUMBER OF PRESENT PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COST:		

PRESENT ACTIVITIES ON WHICH YOUR FIRM IS DESIGNATED ARCHITECT OR ENGINEER OF RECORD

NAME AND TYPE OF PROJECT	LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETED	
				DESIGN	CONSTR.
New Water Supply Distribution System w/5 MG Tank	Cranston, R. I.	City of Cranston Department of Public Works	3,000,000	75	0
Replacement of Bridge Decks Fitzgerald and Southeast Expressways	Boston, Ma	Comm. of Mass. Department of Public Works	30,000,000	95	0
Wastewater Treatment Plant Expansion & Upgrading (23 MGD)	Cranston, R.I.	City of Cranston Department of Public Works	52,000,000	100	35
Wastewater Treatment Plant Expansion & Upgrading (80 MGD)	Providence, R.I.	City of Providence Department of Public Works	80,000,000	25	0
Park Plaza Development	Boston, Ma	City of Boston Boston Redevelopment Authority	8,000,000	30	0
Columbia Point Redevelopment	Boston, Ma	City of Boston Boston Redevelopment Authority	17,500,000	10	0
Replacement of Bridge Decks Northeast Expressway	Boston, Ma	Comm. of Mass. Department of Public Works	10,000,000	100	50
I-190 & I-290 Interchange Burncoat St.	Worcester, Ma	Comm. of Mass. Department of Public Works	7,000,000	40	0
I-190 & I-290 Connector	Worcester, Ma	Comm. of Mass. Department of Public Works	1,700,000	100	60
TOTAL NUMBER OF PRESENT PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COST:		

PRESENT ACTIVITIES ON WHICH YOUR FIRM IS DESIGNATED ARCHITECT OR ENGINEER OF RECORD

NAME AND TYPE OF PROJECT	LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETED DESIGN	PERCENT COMPLETED CONSTR.
Roof Repairs & Renovations Lemuel Shattuck Hosp.	Boston, Ma	Comm. of Mass. Bureau of Bldg. Constr.	350,000	100	95
Review & Checking of Bridges, retaining walls & culverts designed by other Consulting Engineers	Various	Comm. of Mass. Department of Public Works	---	Con- tinu- ing	None
Route 146 Relocation Highway & 6 Bridges	Uxbridge- Millville, Ma	Comm. of Mass. Department of Public Works	23,000,000	1	0
Route 1 Reconstruction Highway & 2 Bridges	Revere - Malden Saugus, Ma	Comm. of Mass. Department of Public Works	8,000,000	*	*
Relocated Daniel Shays Highway & Bridge over B & M R.R.	Athol, Ma	Comm. of Mass. Department of Public Works	750,000	0	0
TOTAL NUMBER OF PRESENT PROJECTS: 17			TOTAL ESTIMATED CONSTRUCTION COST: \$272,700,000		

COMPLETED WORK ON WHICH YOUR FIRM WAS DESIGNATED ARCHITECT OR ENGINEER OF RECORD DURING THE LAST 10 YEARS

NAME AND TYPE OF PROJECT	LOCATION	Year Your Work Completed	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	Contracted (Yes or No)
Renovations and improvements to radiological department at Lemuel Shattuck Hospital	Boston, Ma	1971	Comm. of Mass. Bureau of Bldg. Constr. Boston, Ma	500,000	Yes
Mobile Home Study	Marlborough, Ma	1971	Marlborough Planning Board Marlborough, Ma		
Preparation of Master Plans, and/or Supplemented updates	Massachusetts: Berlin, Bolton, Hampden, Hanover, Williamstown, Princeton, Rowley	1971	Town Planning Boards		
Incentive Zoning Study: Elderly housing study	Stow, Ma	1971	Planning Board, Stow, Ma		
Apartment Zoning Study	Upton, Ma	1971	Planning Board, Upton, Ma		
Evaluation of a 4,300 unit 500+ acre proposed community development plan	Marlborough, Ma	1971	Marlborough Planning Board		
TOTAL NUMBER OF COMPLETED PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COST:		

COMPLETED WORK ON WHICH YOUR FIRM WAS DESIGNATED ARCHITECT OR ENGINEER OF RECORD
DURING THE LAST 10 YEARS

NAME AND TYPE OF PROJECT	LOCATION	Year Your Work Completed	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	Con- structed (Yes or No)
Basic design study of 1 mi. of urban roadway and 900 ft. bridge over Lake Quinsigamond and 75 ft. bridge over Lake Avenue	Rte. 9 Worcester, Ma	1971	Comm. of Mass. Dept. of Public Works Boston, Ma	\$6,500,000	No
Replacement and/or cleaning and lining of approx. 30,000 l.f. of 4-12 inch water mains	Fairview Section Chilcopee, Ma	1971	City of Chilcopee Water Dept. Chilcopee, Ma	400,000	Yes
Renovations to Maternity Bldg., Pharmacy and Emergency Floor. Con- struction of Animal Lab.	Boston City Hospital Boston, MA	1971	City of Boston Public Facilities Comm.	650,000	Yes
Relocation of Porter Road at Logan Airport	Boston, Ma	1971	Mass. Port Authority	400,000	Yes
New Community Plan, study and report for approx. 2,000 acres of Western Cranston, R. I.	Western Cranston, R. I.	1971	City of Cranston Cranston, R. I.		
Design of through girder bridge to support existing railroad bridge superstruc- ture No. 149.21 over Rte. 16	Gorham, New Hampshire	1972	Boston & Maine Railroad Boston, Ma	172,000	Yes
TOTAL NUMBER OF COMPLETED PROJECTS	TOTAL ESTIMATED CONSTRUCTION COST:				

COMPLETED WORK ON WHICH YOUR FIRM WAS DESIGNATED ARCHITECT OR ENGINEER OF RECORD DURING THE LAST 10 YEARS

NAME AND TYPE OF PROJECT	LOCATION	Year Your Work Completed	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	Completed (Yes or No)
Major lighted interchange between the Boston Inner Belt and S.W. Expressway (both 8-lane divided highways) with 3 levels of direct connection ramps, viaducts, bridges and depressed roadways	Boston, Ma	1972	Comm. of Mass. Dept. of Public Works Boston, Ma	\$40,000,000	No
1.1 miles of circumferential highway between Rte. 3 and Rte. 3A	Nashua-Hudson, N.H.	1972	State of New Hampshire Dept. of Public Works Concord, N. H.	2,400,000	Yes
Indoor swimming pool at Healy playground	Roslindale, Ma	1972	City of Boston Public Facilities Dept.	550,000	Yes
2nd Taylors Falls Bridge 2 mi. of urban roadway and 600 ft. bridge over Merrimack River	Route 111, Hudson Nashua, N. H.	1972	State of New Hampshire Dept. of Public Works Concord, New Hampshire	1,300,000	Yes
Steel stringer bridge and its immediate approaches over Cold River	Acworth, N. H.	1972	State of New Hampshire Dept. of Public Works Concord, New Hampshire	110,000	Yes
Elevated 500,000 gal. water storage tank, pumping station and controls w/ water lines	Schaefer Stadium, Foxboro, Ma	1972	Stadium Realty Trust	250,000	Yes
TOTAL NUMBER OF COMPLETED PROJECTS:				TOTAL ESTIMATED CONSTRUCTION COST:	

NAME AND TYPE OF PROJECT	LOCATION	Year of Work Completed	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	Contract Executed (Yes or No)
Renovations of Olney, Library, Ball & Power Plant Bldgs. at Lowell Tech. Institute	Lowell, Ma	1972	Comm. of Mass. Bureau of Bldg. Const.	\$1,000,000	Yes
New water supply dist. system w/pumping stations and 5-million gallon reservoir	Western Cranston, R.I.	1973	City of Cranston Dept. of Public Works Cranston, R. I.	4,000,000	Yes
Renovations to "B" Bldg. incl. plbg. & elec. improvements at Northampton State School	Northampton, Ma	1973	Comm. of Massachusetts Bureau of Bldg. Const.	170,000	Yes
Public Wks. Garage w/maint. facilities, steel frame w/masonry block constr.	North Reading, Mass.	1973	Town of No. Reading, Ma Dept. of Public Works	\$ 160,000	Yes
Preparation of Handbook for use by local planning board members of the Mass. Federation of Planning Bds.	Massachusetts	1973	Mass. Federation of Planning Boards, Braintree, Ma		
A space use and feasibility study for renovation of Old Suffolk County Courthouse	Boston, Ma	1973	City of Boston Public Facilities Dept.		
TOTAL NUMBER OF COMPLETED PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COST:		

NAME AND TYPE OF PROJECT	LOCATION	Work Completed	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	Con- structed (Yes or No)
Alterations to the 15th floor of New Suffolk Cty. Court House & the 4th floor of Old County Courthouse	Boston, Ma	1973	City of Boston Public Facilities Dept.	\$ 200,000	Yes
Simple span bridge with curved welded girders over Sugar River	Croydon, N. H.	1973	State of New Hampshire Dept. of Public Works Concord, N. H.	300,000	Yes
Two simple span bridges & 2 reinforced concrete box culverts	Milford, N. H. Rte. 101	1973	State of New Hampshire Dept. of Public Works Concord, N. H.	500,000	Yes
Urban Renewal Project for St. Botolph St. Elderly Housing. Includes survey, master planning, special studies, P.I.C. plans, site improvements, const- documents, field inspec- tion and parcel plans	Boston, Ma	1973	City of Boston Boston Redevelopment Authority	100,000	Yes
Study & Design of Second Roadway with six bridges	Athol, Phillipston, Ma Rte. 2	1974	Comm. of Mass. Dept. of Public Works	11,000,000	No
Approximately 33,000 l.f. of new gravity sewers and 2 pumping stations	Cranston, R. I.	1974	City of Cranston Dept. of Public Works	1,700,000	Yes
Safety Improvements to I-290	Auburn, Shrewsbury, Ma	1976	Comm. of Mass. Dept. of Public Works	10,000,000	Yes
TOTAL NUMBER OF COMPLETED PROJECTS		TOTAL ESTIMATED CONSTRUCTION COST:			

NAME AND TYPE OF PROJECT	LOCATION	Year Work Completed	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	Construction Completed (Yes or No)
Reconstruction of Three Bridges over B & M RR, Revere Beach Parkway and Rte. 1A	Revere, Ma	1976	Comm. of Massachusetts Dept. of Public Works	\$1,120,000	Yes
Repairs to Chelsea St. Bridge	Boston, Ma	1977	City of Boston Dept. of Public Works	650,000	Yes
Storm Water Drainage Study	Cranston, R. I.	1977	City of Cranston Dept. of Public Works	---	No
Jet Engine Test Cells extension of control room buildings	Lynn, Ma	1977	Gen. Electric Co. - Lynn, Small Aircraft Engine Dept.	400,000	Yes
Reconstruction Alford Street Bridge	Boston, Ma	1978	City of Boston Dept. of Public Works	550,000	Yes
Development of a Facilities Plan for a Wastewater Treatment System-Step 1	Cranston, R. I.	1977	City of Cranston Dept. of Public Works	---	No
Replacement of Bridge Decks East Boston Expressway	Boston, Ma	1978	Comm. of Mass. Dept. of Public Works	9,800,000	Yes
Installation of Fire Protection and Safety Improvements Lemuel Shattuck Hospital	Boston, Ma	1978	Comm. of Mass. Bureau of Bldg. Const.	600,000	Yes
Preparation of Master Plan	Freetown, Ma	1978	Freetown Planning Board	---	No
TOTAL NUMBER OF COMPLETED PROJECTS:		TOTAL ESTIMATED CONSTRUCTION COST:			

COMPLETED WORK ON WHICH YOUR FIRM WAS DESIGNATED ARCHITECT OR ENGINEER OF RECORD
DURING THE LAST 10 YEARS

NAME AND TYPE OF PROJECT	LOCATION	Year Your Work Completed	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	Con- structed (Yes or No)
Drainage Improvements to E. Boston Expressway and Surface Drainage System	East Boston, Ma	1978	Comm. of Mass. Department of Public Works	2,000,000	Yes
Replacement of Bridge Decks Mass.Ave. Interchange of the S.E. Expressway	Boston, Ma	1978	Comm. of Mass. Department of Public Works	5,900,000	Yes
Waterworks Design	Georgetown, Ma	1978	Town of Georgetown Board of Selectmen	1,000,000	Yes
Study and design of dual state highway, 2 major interchanges, 26 bridges	Leominster, Lancaster Sterling, Mass. Rte, 52 I-190	1979	Comm. of Mass. Department of Public Works	35,700,000	Yes
Renovations to Mass. Bay Community College	Wellesley, Ma	1979	Comm. of Mass. Bureau of Bldg. Constr.	1,000,000	Yes
New Water Supply Distribu- tion System with Pump- ing Stations	Cranston, R. I.	1979	City of Cranston Department of Public Works	2,000,000	Yes
Highway Location - Final	Harts Location, N. H.	1979	State of New Hampshire Department of Public Works	1,800,000	Yes
Study for Street Improvement Program	Gloucester, Ma	1979	City of Gloucester Dept. of Community Develop- ment	5,075,000	Yes
Infiltration/Inflow Analysis for Sanitary Sewers	Cranston, R. I.	1980	City of Cranston Dept. of Public Works	----	Yes
TOTAL NUMBER OF COMPLETED PROJECTS:				TOTAL ESTIMATED CONSTRUCTION COST:	

COMPLETED WORK ON WHICH YOUR FIRM WAS DESIGNATED ARCHITECT OR ENGINEER OF RECORD
DURING THE LAST 10 YEARS

NAME AND TYPE OF PROJECT	LOCATION	Year Your Work Completed	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	Con- structed (Yes or No)
Inspection of 42 Bridges Owned by City of Boston	Boston, Ma	1980	City of Boston Department of Public Works	----	None
Deck Repairs-Congress St. Bridge	Boston, Ma	1980	City of Boston Department of Public Works	75,000	None
Design for Reconstruction of Sargent St.	Gloucester, Ma	1980	City of Gloucester Department of Community Development	151,000	Yes
Test Facility-Advanced Propulsion System	Lynn, Ma	1980	General Electric Co.	500,000	Yes
TOTAL NUMBER OF COMPLETED PROJECTS:	53		TOTAL ESTIMATED CONSTRUCTION COST:	\$150,683,000	

COMPLETED WORK ON WHICH YOUR FIRM WAS ASSOCIATED WITH OTHER FIRMS DURING THE LAST 10 YEARS
(Indicate phase of work for which your firm was responsible)

NAME OF PROJECT AND PHASE OF WORK	LOCATION	OWNER	Year Your Work Completed	ESTIMATED CONSTRUCTION COST OF		Constructed (Yes or No)	FIRM ASSOCIATED WITH
				Entire Project	Work For Which Your Firm Was Responsible		
10-story office bldg with 3 levels of underground pkg. Total gross bldg. area of 2,000,000 s.f. Work includes all structural, electric, heating, ventilating, air conditioning and plumbing	Wash., D. C.	David Nassif Associates	1970	30,000,000	15,000,000	Yes	Edward Durell Stone, New York New York
23-story office bldg with 2 1/2 levels of underground parking. Total gross bldg. area of 560,000 s.f.	Boston, Ma	Gov't. Center Comm.	1973	25,000,000	12,000,000	Yes	Hoyle, Doran & Berry, Boston, Ma
Study of Social Characteristics of Neighborhoods as Indicators of the Effects of Highway Improvements	Wash., D. C.	U. S. Gov't. Dept. of Transportation	1973	---	---	---	Marshall, Kaplan Gans and Kahn San Francisco, Cal.
TOTAL NUMBER OF COMPLETED PROJECTS				TOTAL ESTIMATED CONSTRUCTION COST OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE:			

COMPLETE WORK ON WHICH YOUR FIRM WAS ASSOCIATED WITH OTHER FIRMS DURING THE LAST 10 YEARS
(Indicate phase of work for which your firm was responsible)

NAME OF PROJECT AND PHASE OF WORK	LOCATION	OWNER	Year Your Work Completed	ESTIMATED CONSTRUCTION COST OF		Con- structed (Yes or No)	FIRM ASSOCIATED WITH
				Entire Project	Work For Which Your Firm Was Responsible		
5-story office bldg. Total gross bldg. area of 130,000 s.f. Work includes all struct., elec., htg., vent., air cond., and pbg.	Canton, Ma	Boston Mutual Life Ins. Co.	1974	\$5,500,000	\$1,500,000	yes	Edward Durell Stone, New York N. Y.
TOTAL NUMBER OF COMPLETED PROJECTS			4	TOTAL ESTIMATED CONSTRUCTION COST OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE			\$28,500,000

EXHIBIT A

The present name of the Corporation is Philem, Inc., a Massachusetts corporation. Pursuant to an Acquisition Agreement dated November 17, 1981, Philem, Inc. will acquire substantially all of the assets of Universal Engineering Corporation as of the Closing Date under the Agreement. As of that date, Philem, Inc. will change its name to Universal Engineering Corporation. This Application is prepared so as to reflect the organization of Philem, Inc. as of the Closing Date under said Agreement.

MEMORANDUM

DECEMBER 3, 1981

TO: BOSTON REDEVELOPMENT AUTHORITY

FROM: ROBERT J. RYAN, DIRECTOR

SUBJECT: APPROVAL OF TRANSFERS RELATING TO ENGINEERING CONTRACTS
WITH UNIVERSAL ENGINEERING CORPORATION

Under the terms of our engineering contracts with Universal Engineering Corporation, the Authority must assent to any assignment of the contracts.

Per the attached request, although the firm will continue to do business under the name of Universal Engineering Corporation, this is the type of assignment that requires the prior approval of the Authority, as major shareholders and certain general partners' interests of Universal Engineering will change. Universal Engineering will continue to perform all of the company's obligations under all the terms and conditions of our present contracts with Universal.

Mr. Emmett I. Davis and Mr. Phil R. Floyd, who presently own Davis and Floyd, Inc., a consulting engineering company of South Carolina, will purchase 80% of the interest of Universal. Mr. Charles Y. Hitchcock, who presently is the Chief Operating Officer of Universal, will obtain a 20% interest in Universal. Under the proposed arrangement, Mr. David E. Nassif will continue as President of the company and business will continue to be conducted by Universal under the same name and with the same present staff.

Davis and Floyd, Inc. is a major engineering company and is listed as 263rd of the top 500 engineering firms by "Engineering News-Record". They will bring approximately \$300,000 of net worth to the augmented Universal Engineering Corporation.

It is recommended that the Authority approve of the assignment of the contracts listed on Exhibit A attached.

An appropriate vote follows.

VOTED: That the Authority hereby approves of the assignment of its present contracts listed on Exhibit A attached hereto and incorporated by reference, to Universal Engineering Corporation; and further authorizes the Director to execute appropriate amendments to said contracts indicating approval of said transfers provided all said contracts are to be governed by the same terms and conditions as the Authority's present contracts with Universal Engineering Corporation.